First Exam AA

Surfaces and Knots, Dave Bayer, February 21, 2002

Name: _____ **School:** _____
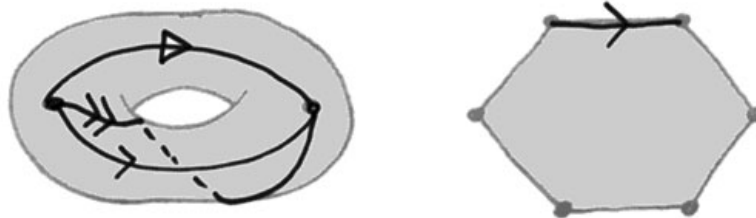
[1]	**[2]**	**[3]**	**[4]**	**[5]**	**TOTAL**

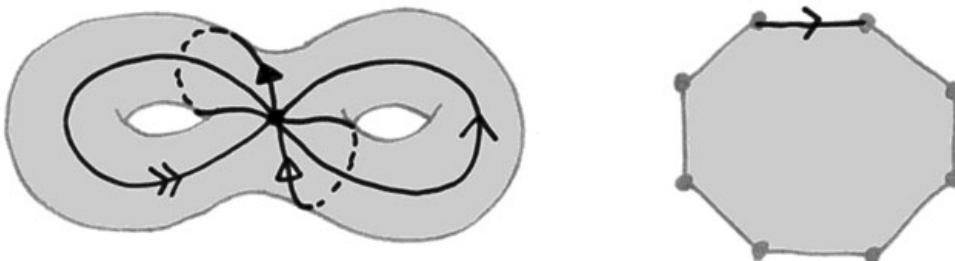You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.

[1] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.

[2] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
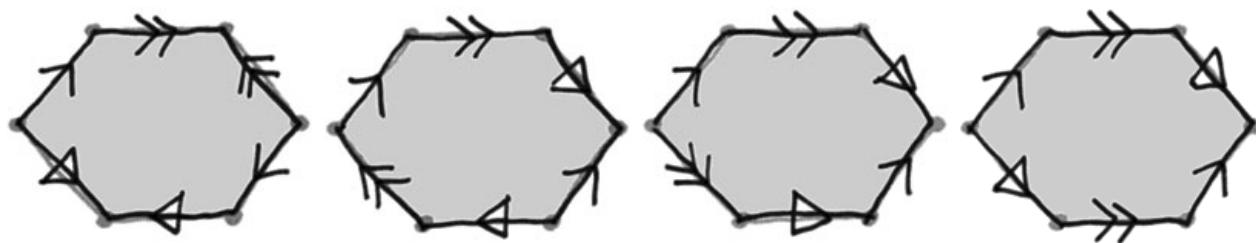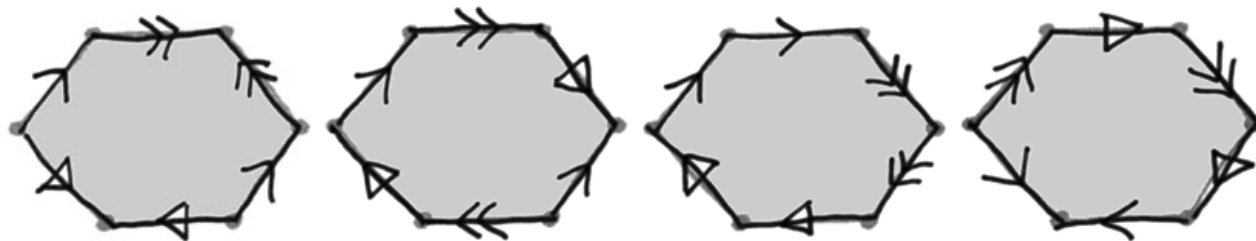
[3] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.

[4] Determine what surface each of the following gluing diagrams represents, by computing its Euler characteristic, and determining whether it is orientable or not.

[5] Find a pair of gluing diagrams, above, which represent the same surface. In any set of eight hexagonal gluing diagrams, why must there always be such a pair? Demonstrate that your pair represents the same surface, by modifying the diagrams until they agree.
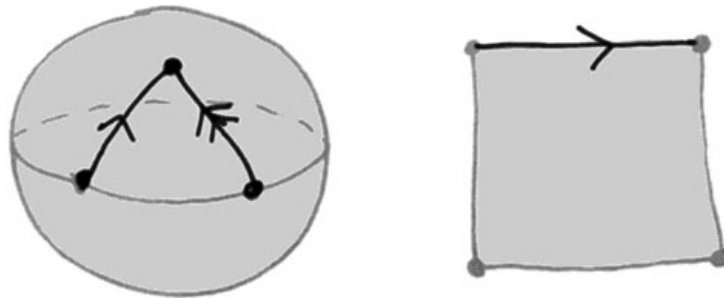
First Exam AB

Surfaces and Knots, Dave Bayer, February 21, 2002
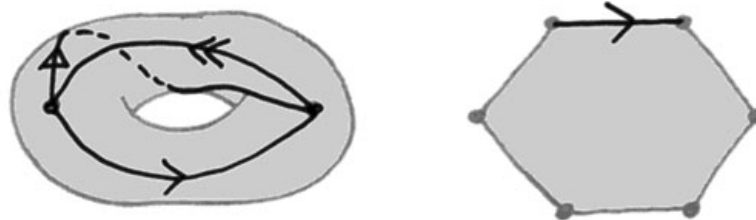
Name: _____ **School:** _____

[1]	[2]	[3]	[4]	[5]	TOTAL

You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.
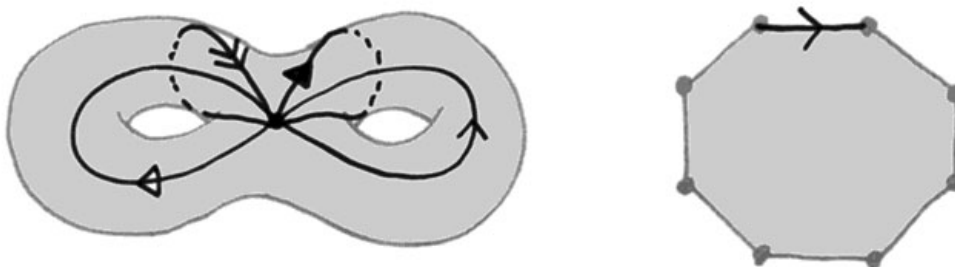
[1] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
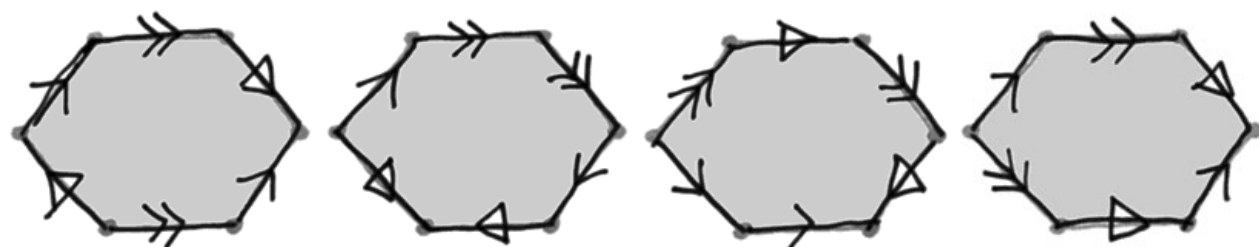
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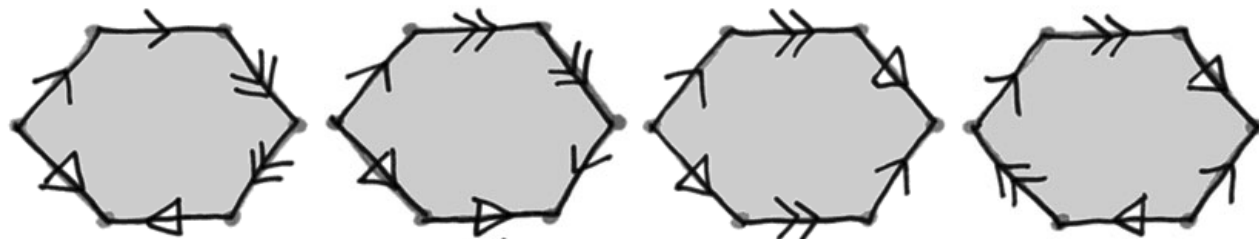
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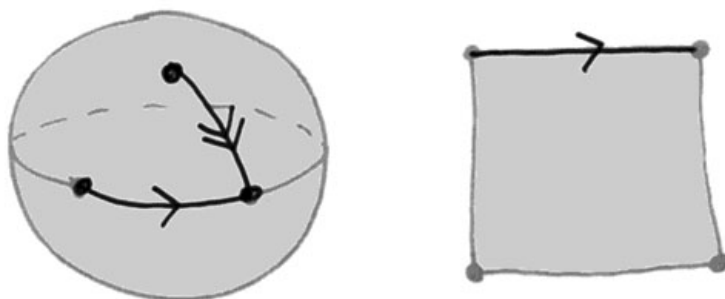
First Exam AC

Surfaces and Knots, Dave Bayer, February 21, 2002
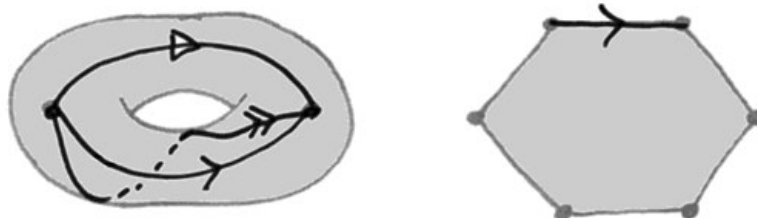
Name: _____ **School:** _____

[1]	[2]	[3]	[4]	[5]	**TOTAL**

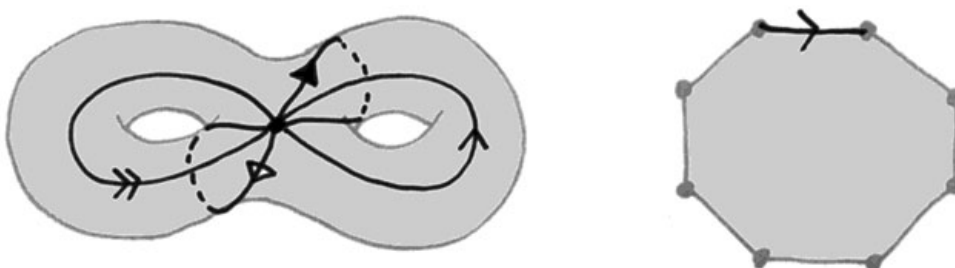You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.

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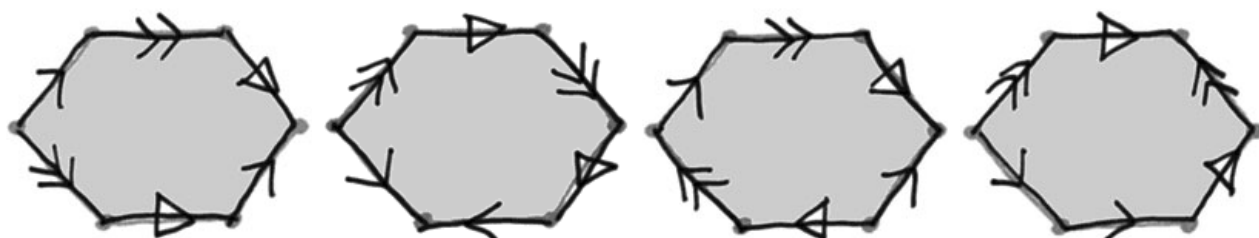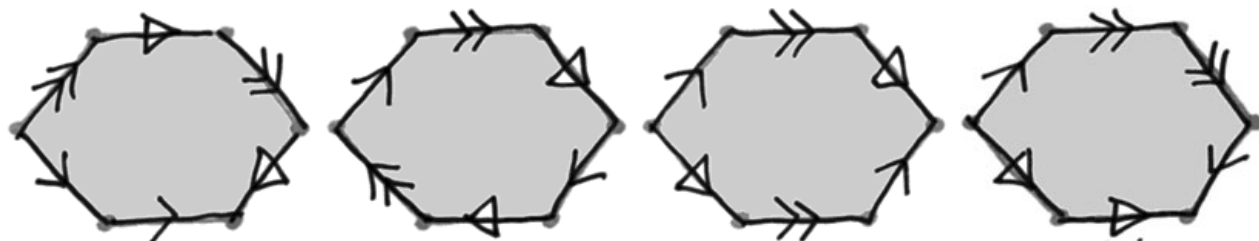
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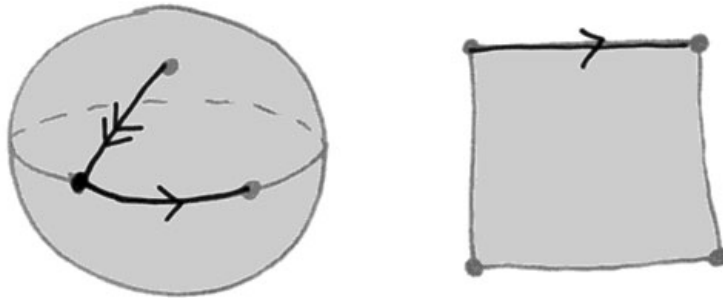
First Exam AD

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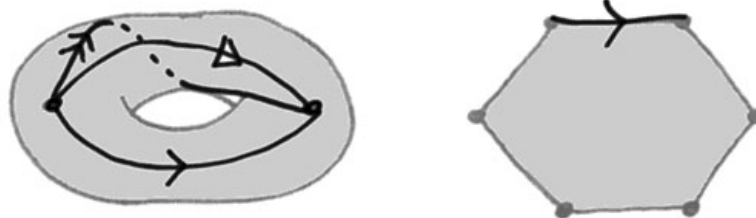
Name: _____ **School:** _____

[1]	[2]	[3]	[4]	[5]	TOTAL

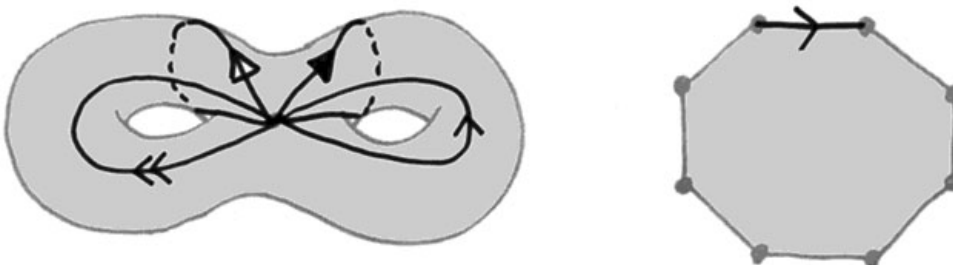You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.

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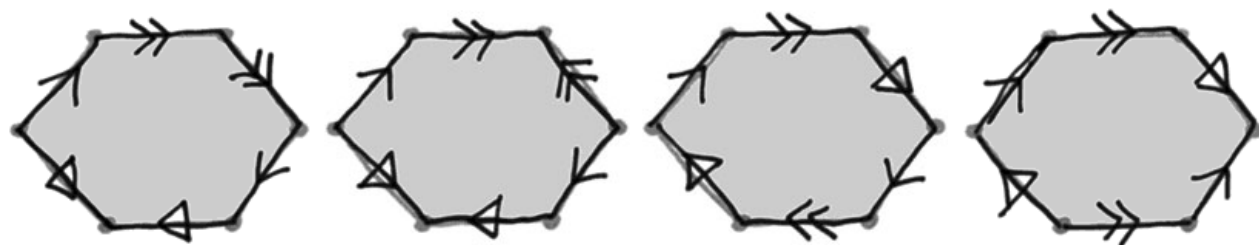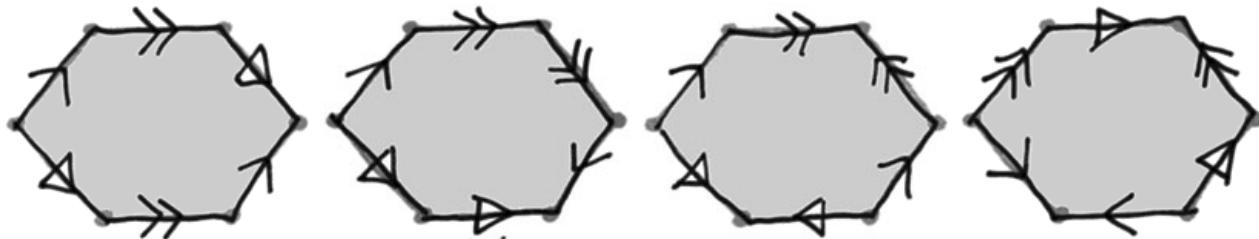
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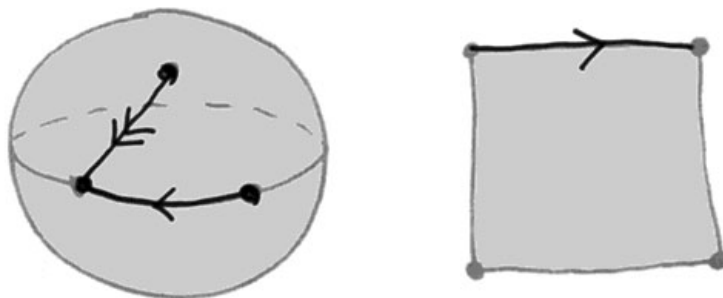
First Exam AE

Surfaces and Knots, Dave Bayer, February 21, 2002
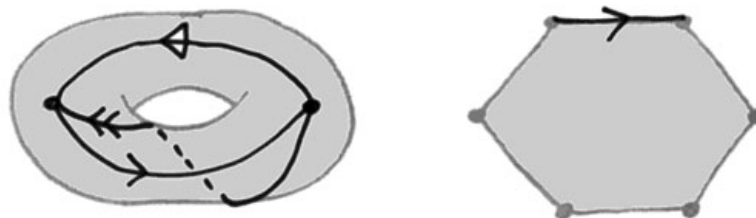
Name: _____ **School:** _____

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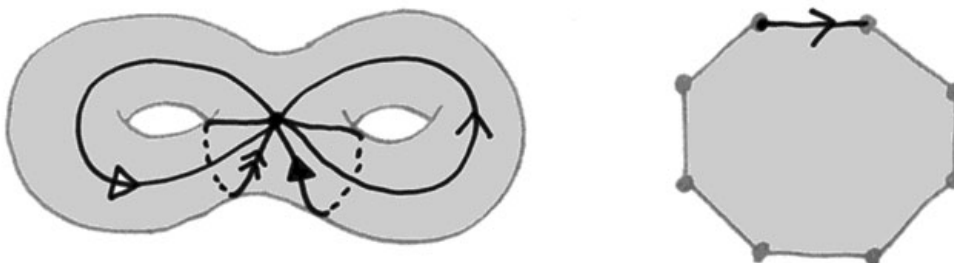
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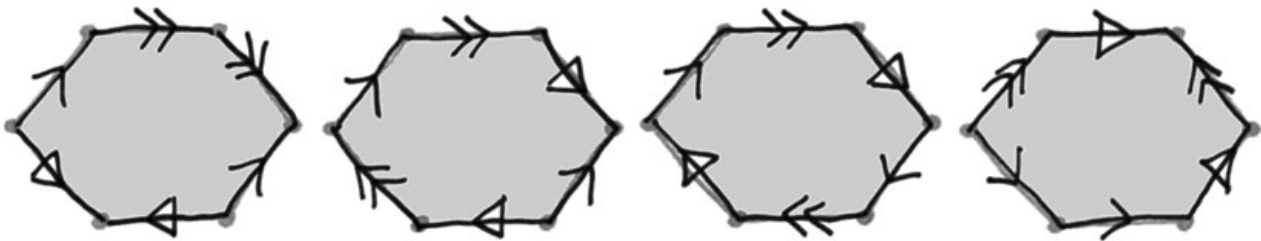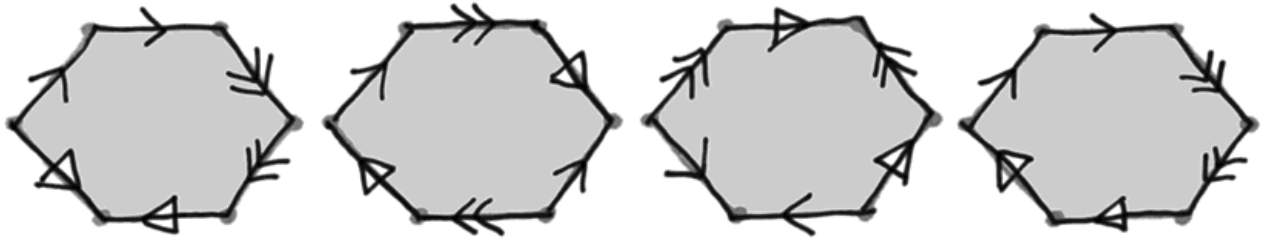
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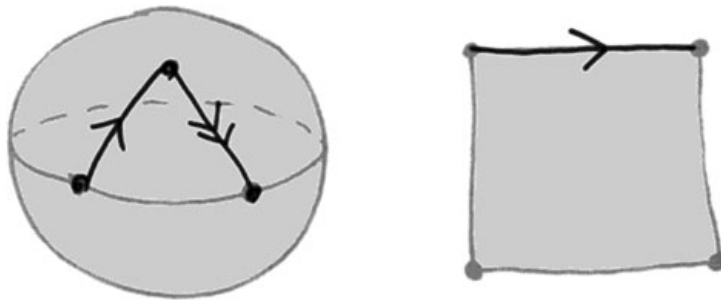
First Exam AF

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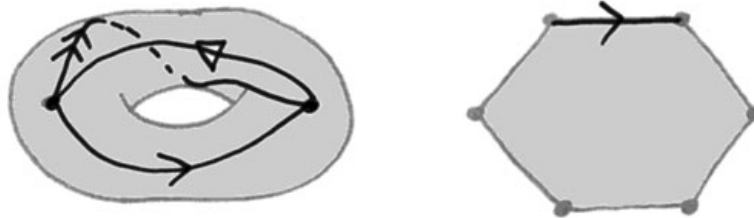
Name: _____   **School:** _____

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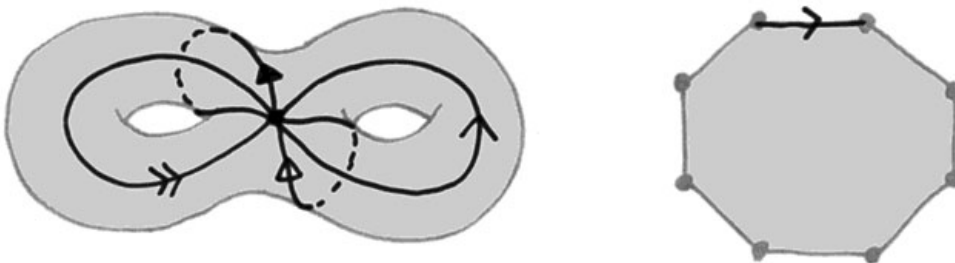
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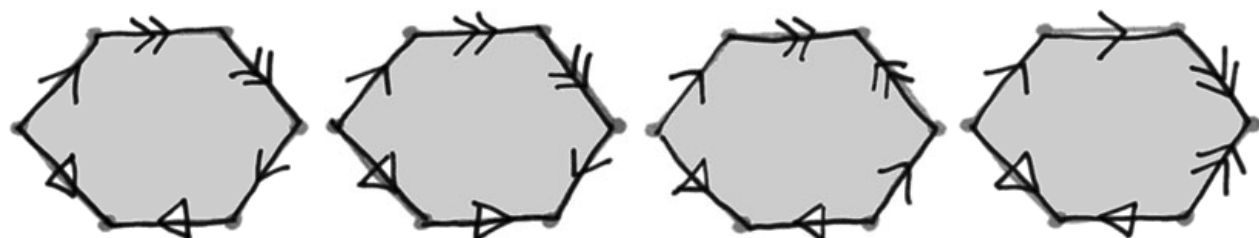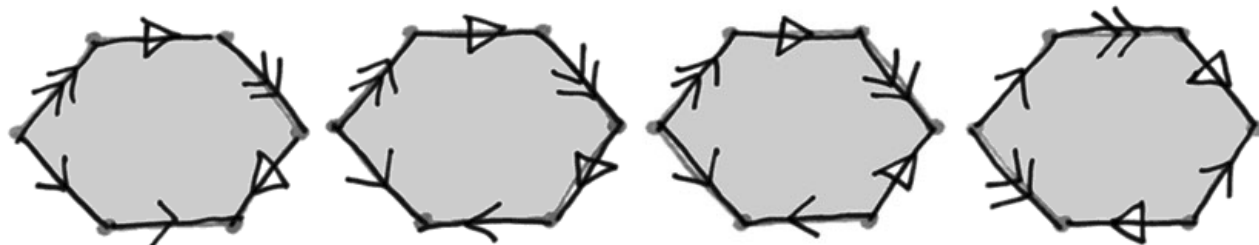

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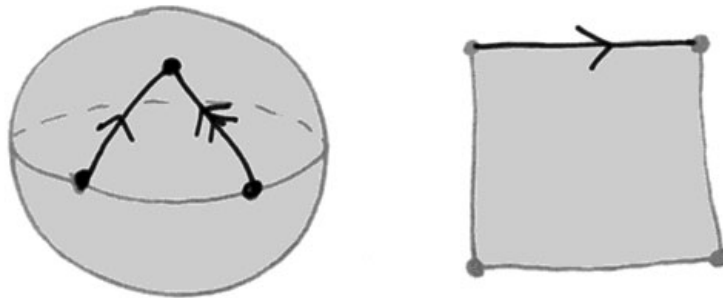
First Exam AG

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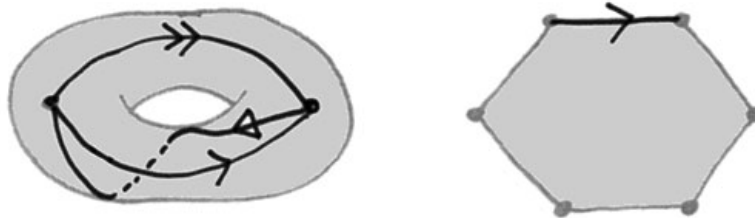
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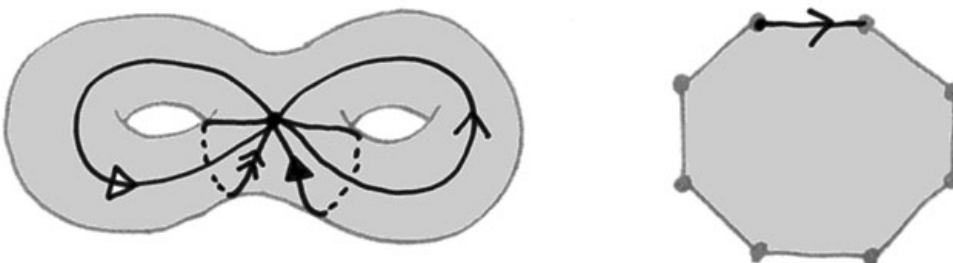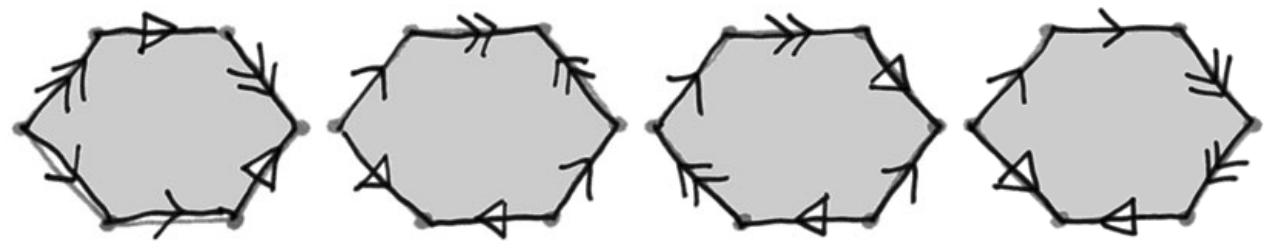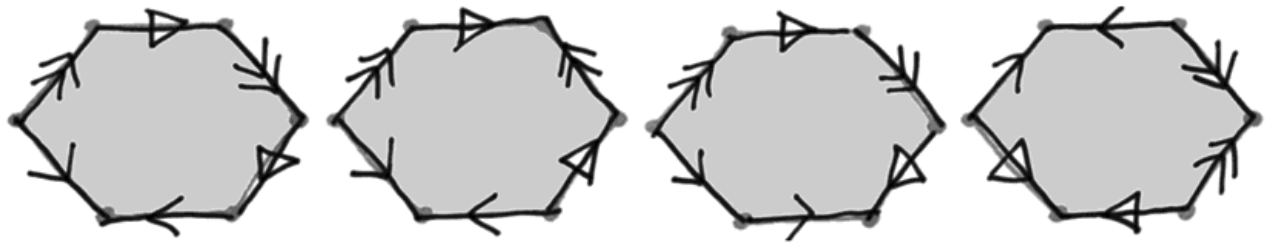

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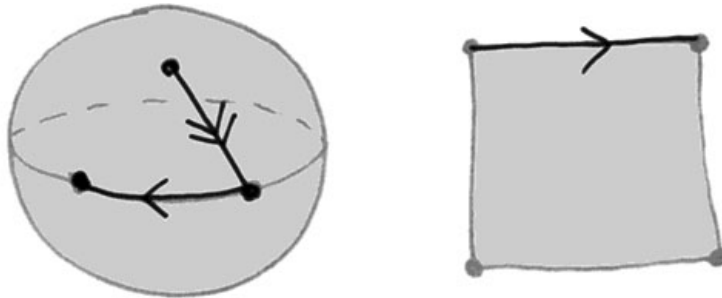
First Exam AH

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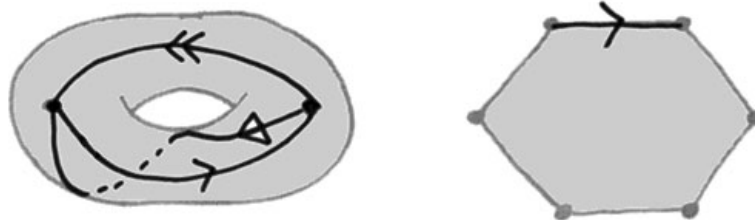
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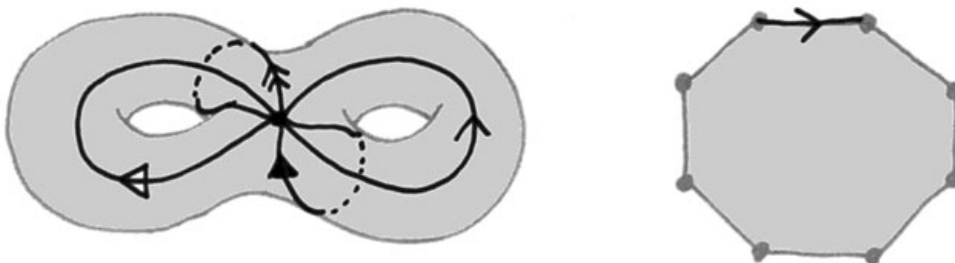
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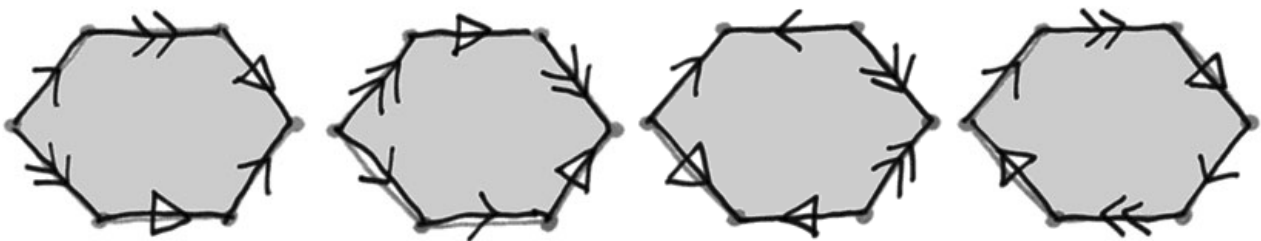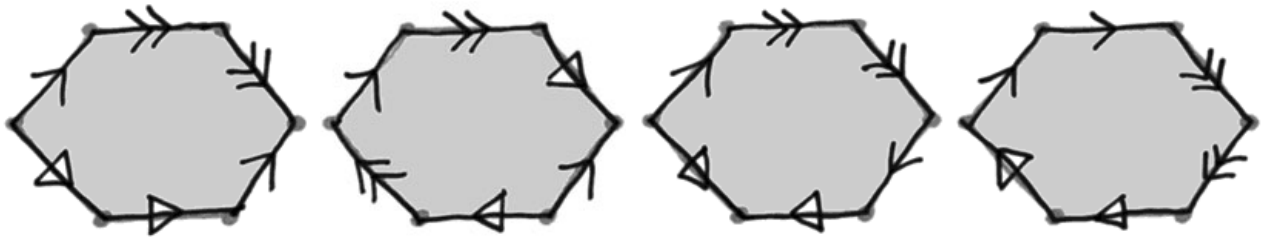
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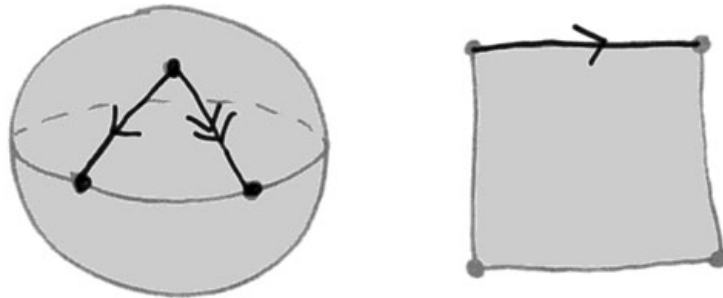
First Exam AI
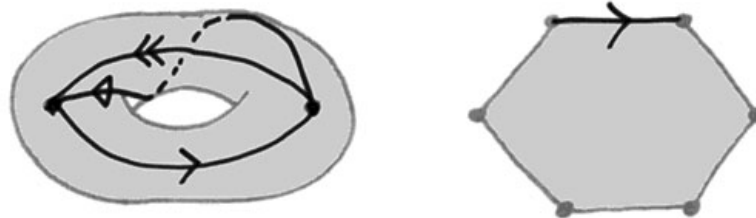
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Name: ⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯ **School:** ⎯⎯⎯⎯⎯⎯⎯

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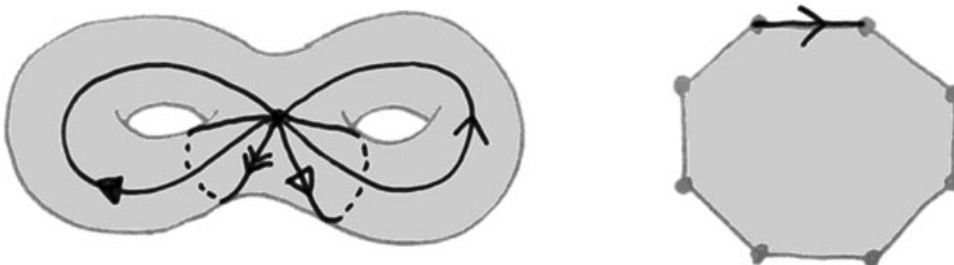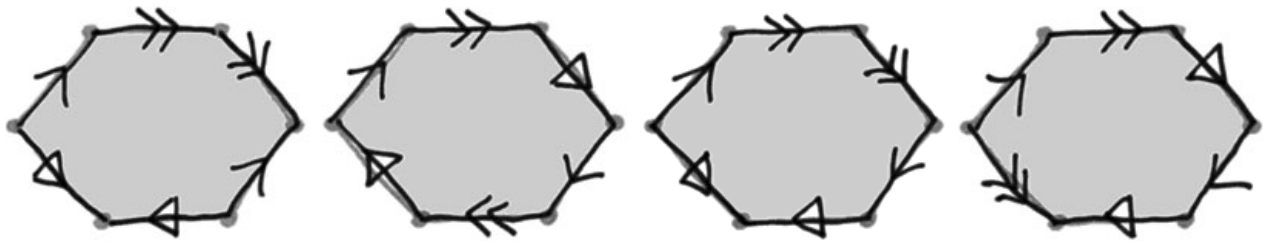

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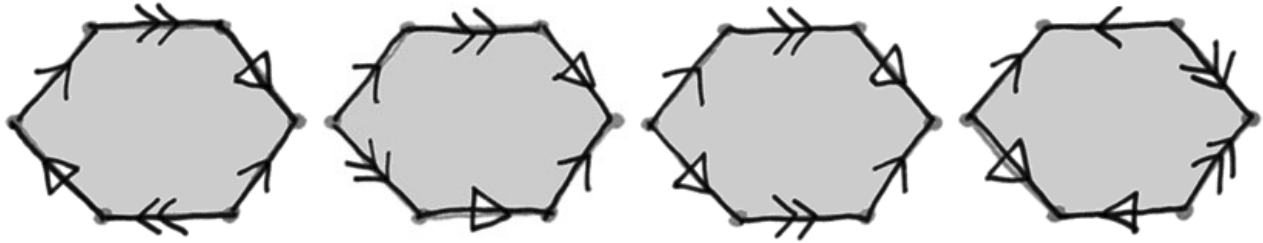
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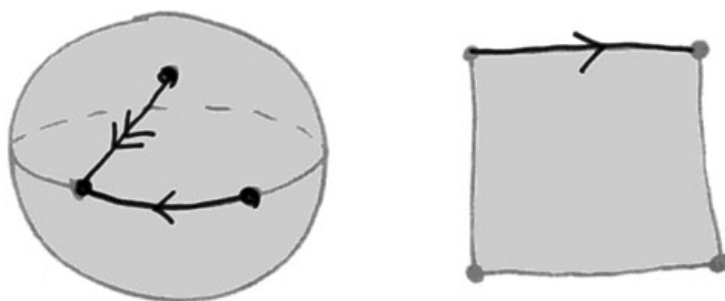
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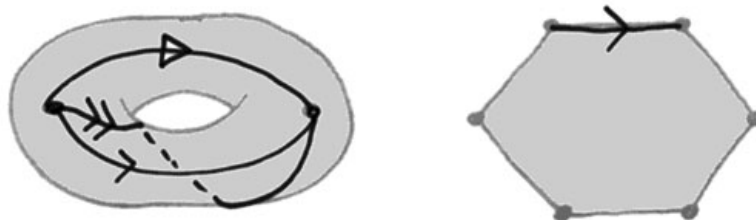
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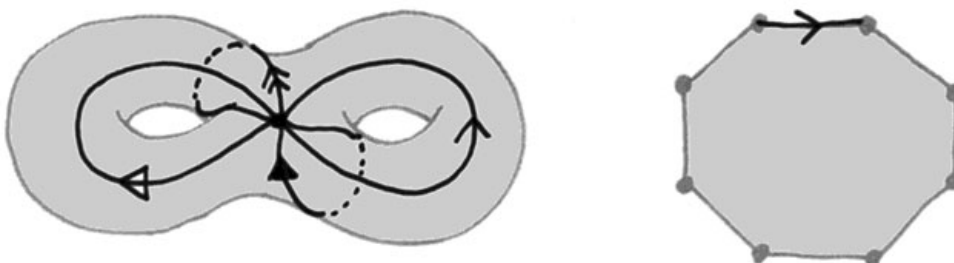

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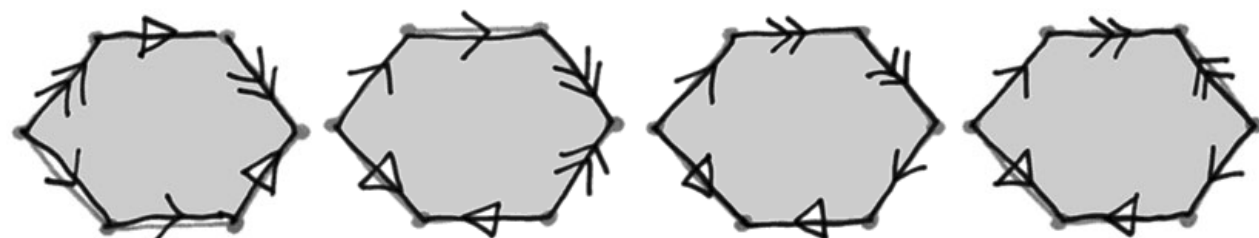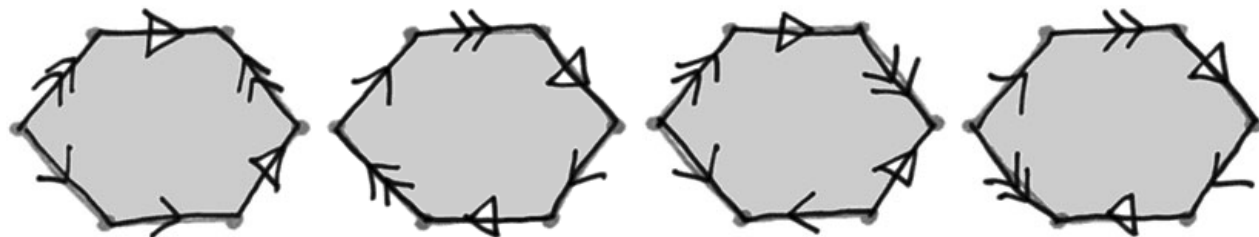
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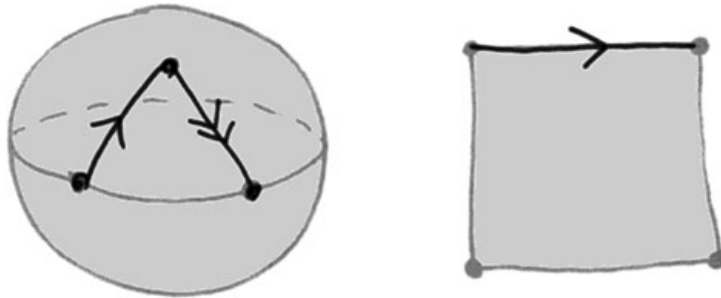
First Exam AK

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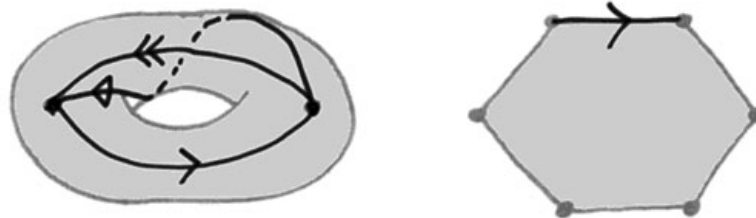
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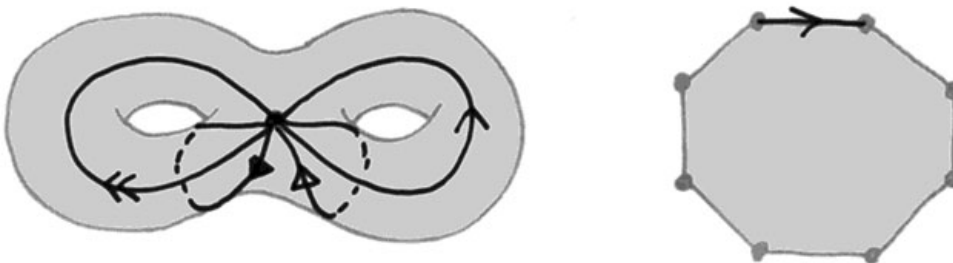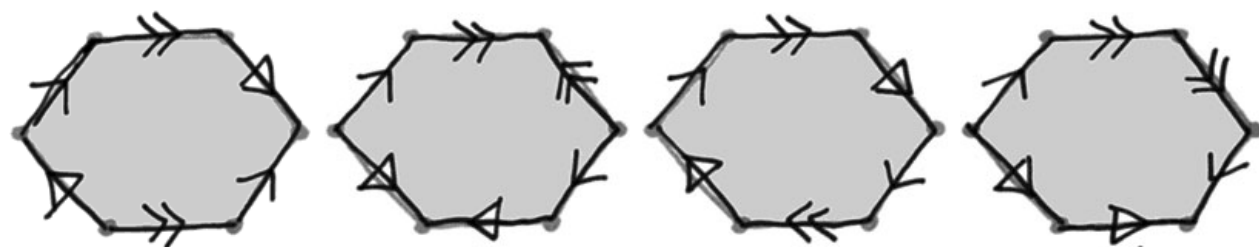
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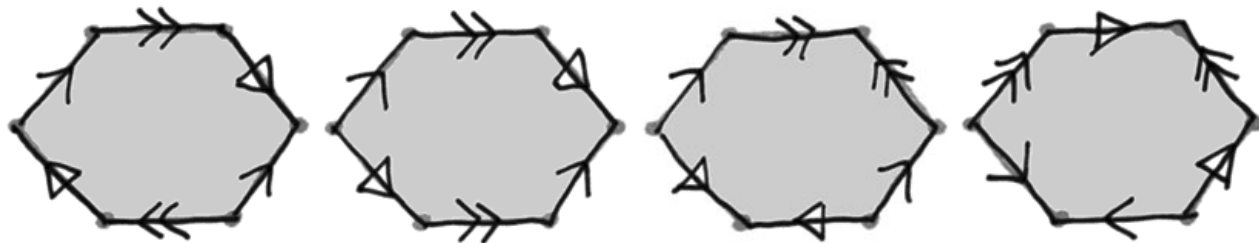
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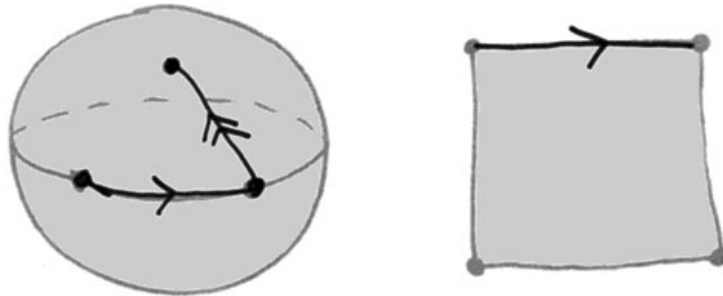
First Exam AL
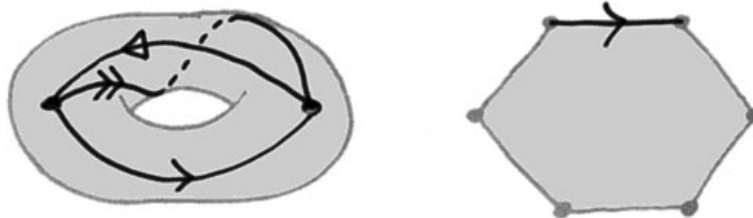
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Name: ⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯ **School:** ⎯⎯⎯⎯⎯⎯

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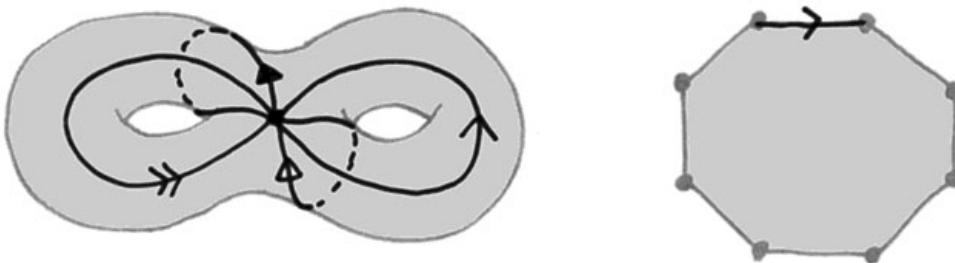

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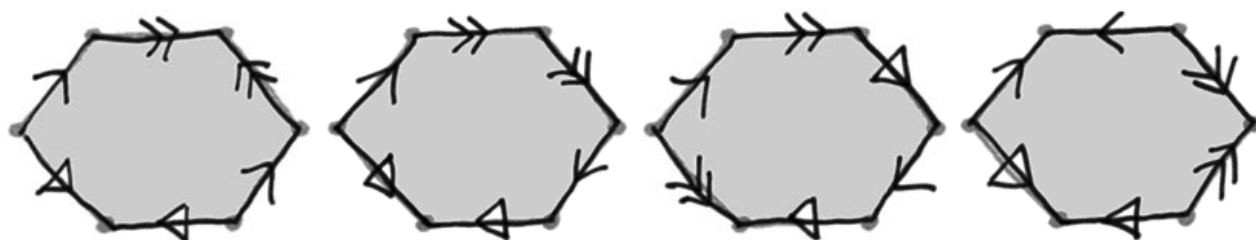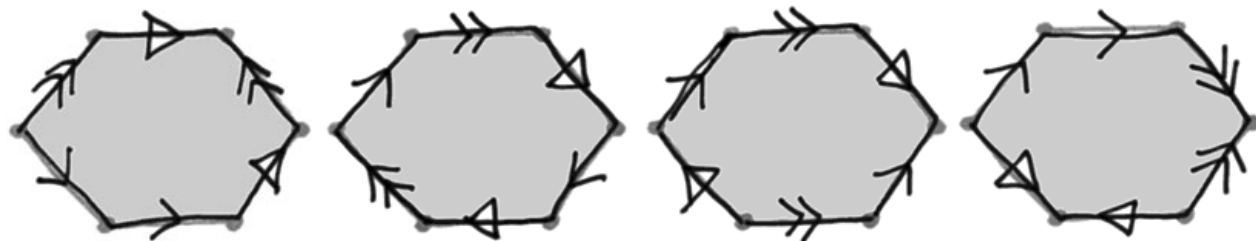
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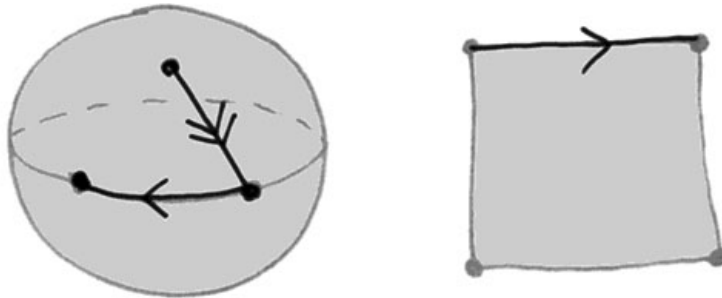
First Exam AM

Surfaces and Knots, Dave Bayer, February 21, 2002
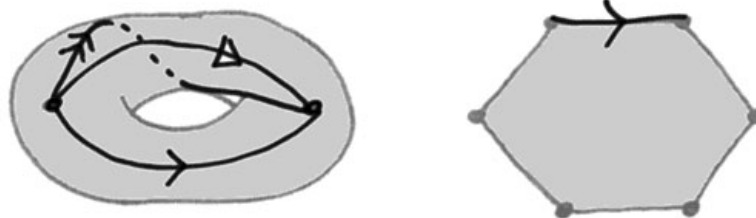
Name: _____   **School:** _____

[1]	[2]	[3]	[4]	[5]	**TOTAL**

You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.

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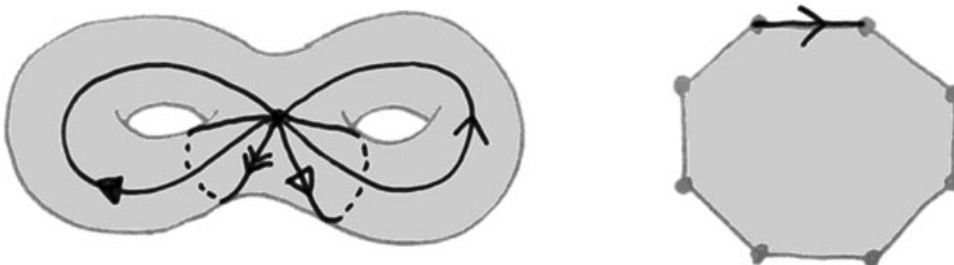

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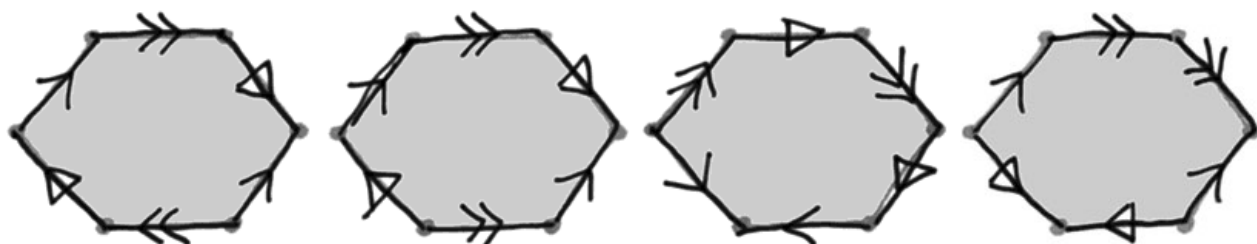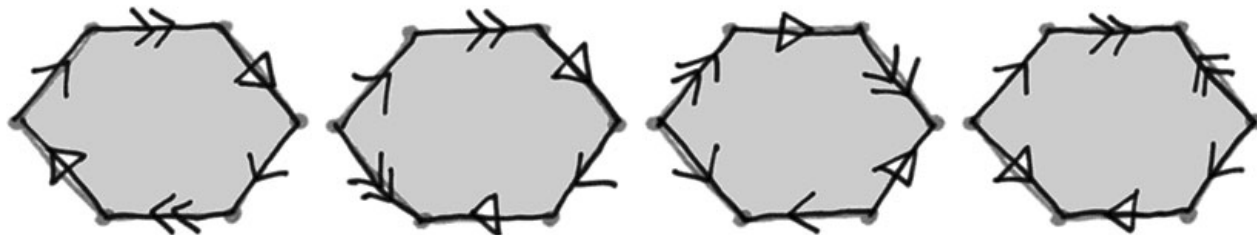
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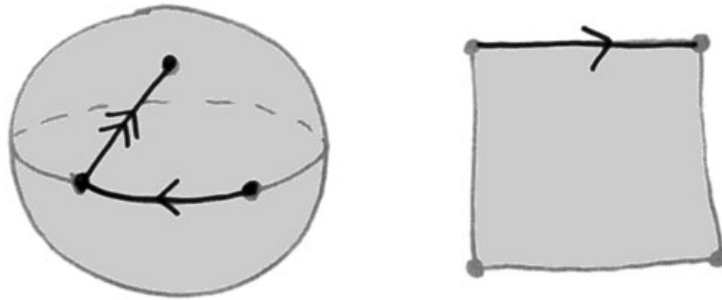
First Exam AN
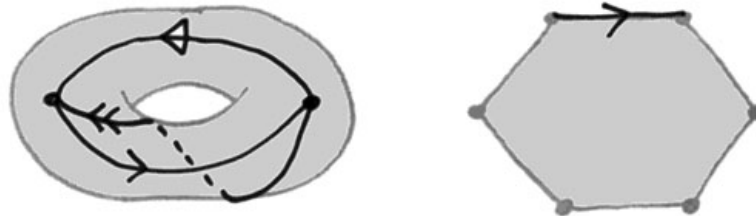
Surfaces and Knots, Dave Bayer, February 21, 2002

Name: ⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯ **School:** ⎯⎯⎯⎯⎯⎯⎯⎯

[1]	**[2]**	**[3]**	**[4]**	**[5]**	**TOTAL**

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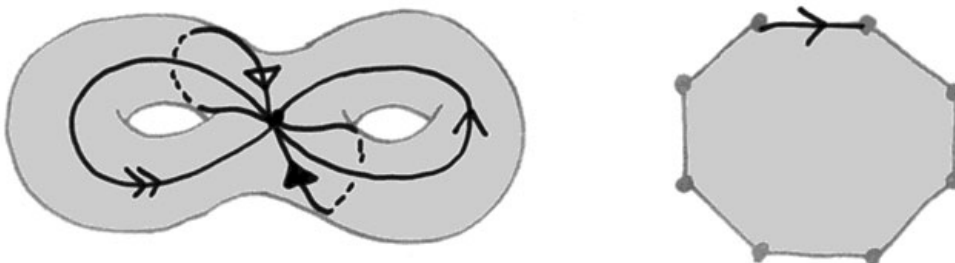**[2]** Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.

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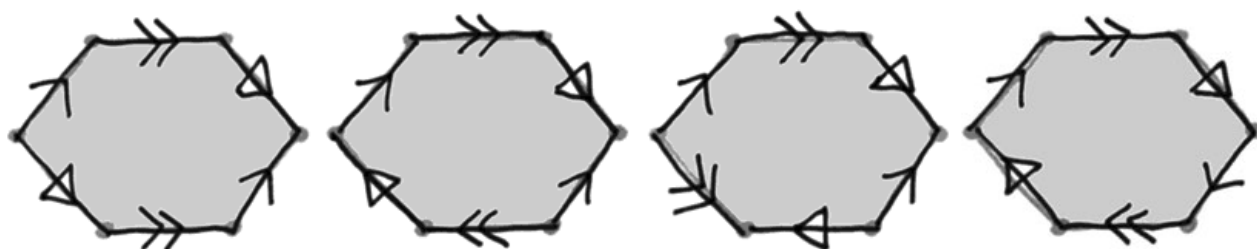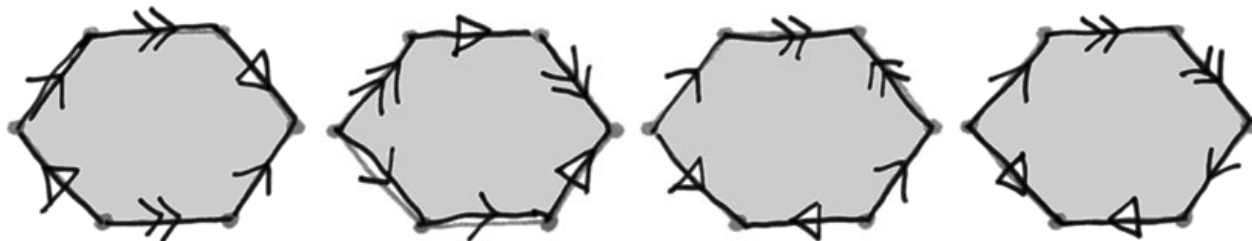
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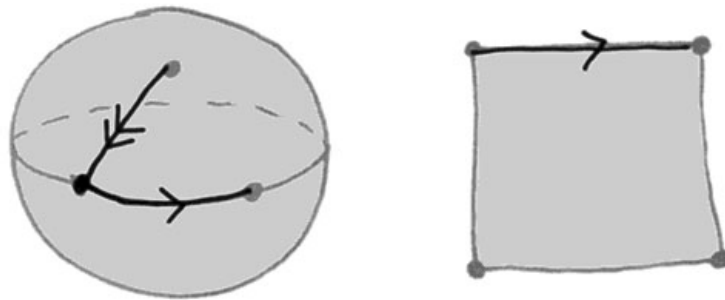
First Exam BA
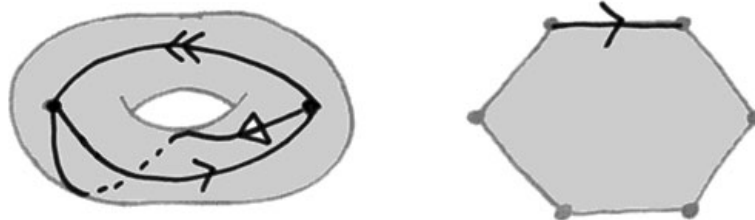
Surfaces and Knots, Dave Bayer, February 21, 2002

Name: ———————————————————— **School:** —————

[1]	[2]	[3]	[4]	[5]	**TOTAL**

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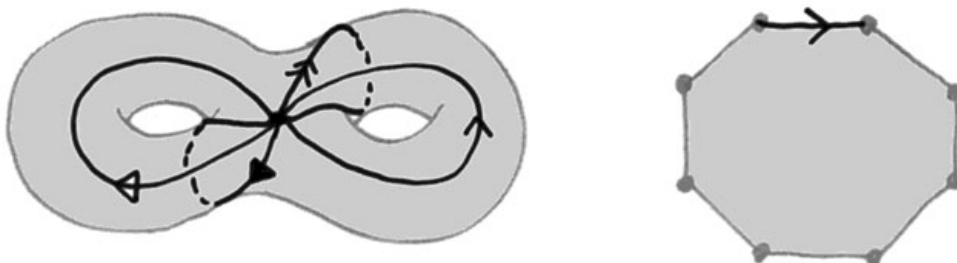

[3] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
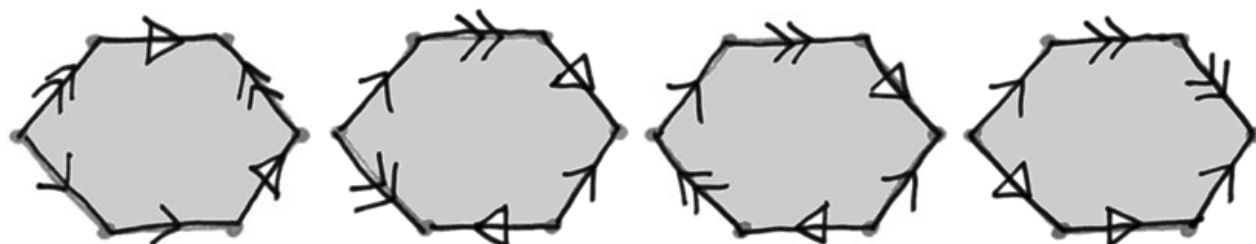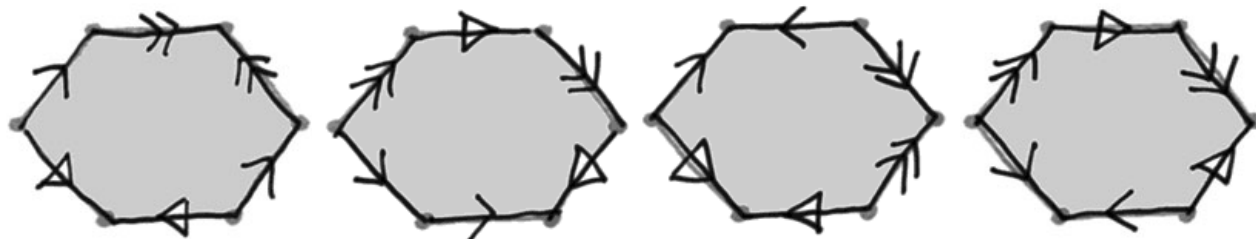
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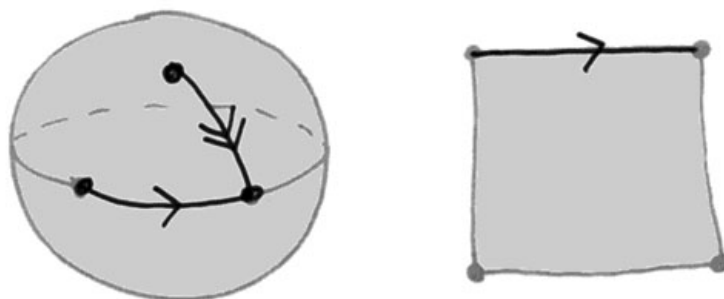
First Exam BB
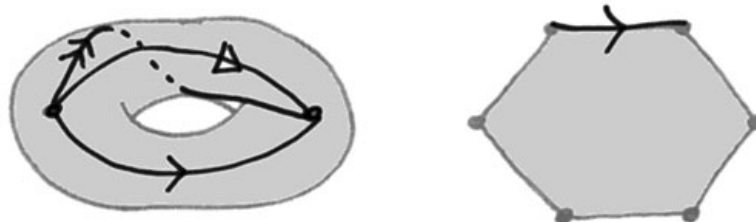
Surfaces and Knots, Dave Bayer, February 21, 2002

Name: ──────────────────────── **School:** ──────────

[1]	[2]	[3]	[4]	[5]	TOTAL

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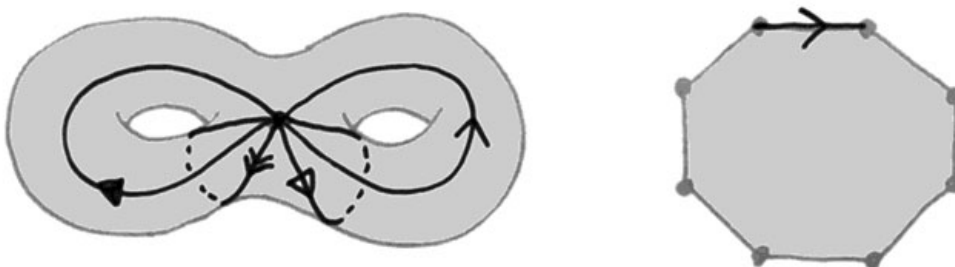

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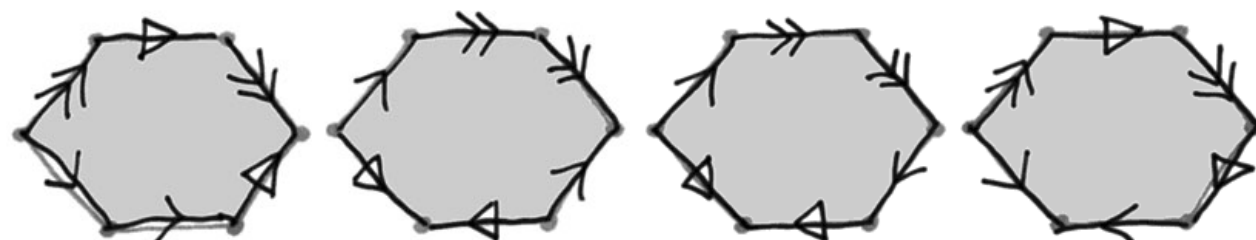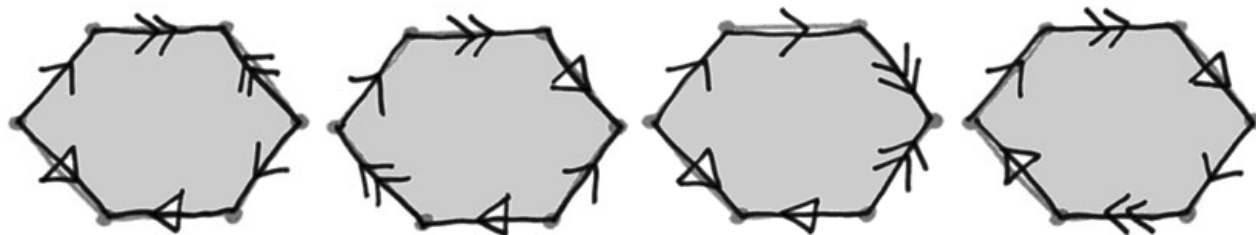
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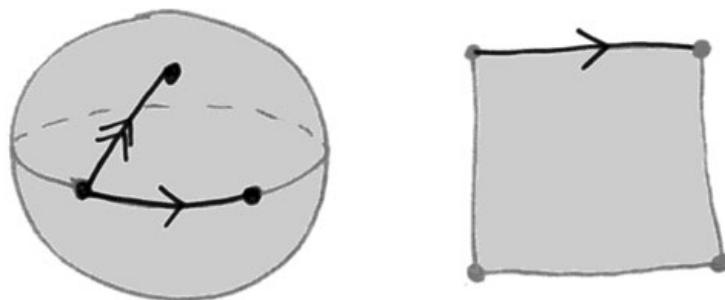
First Exam BC

Surfaces and Knots, Dave Bayer, February 21, 2002
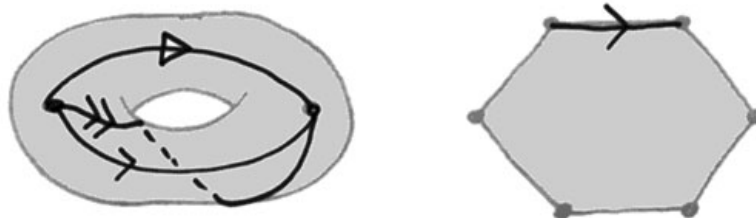
Name: _____ **School:** _____

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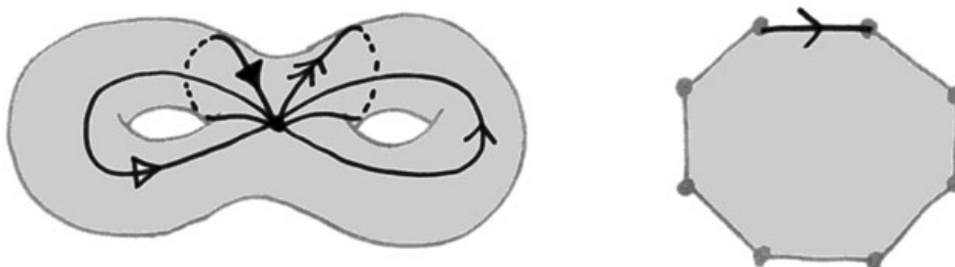
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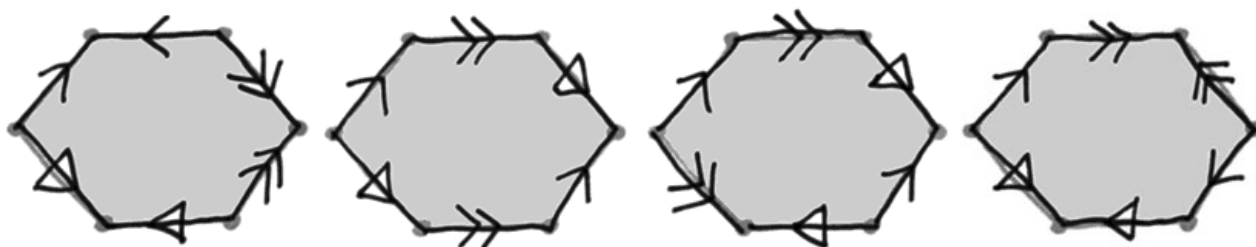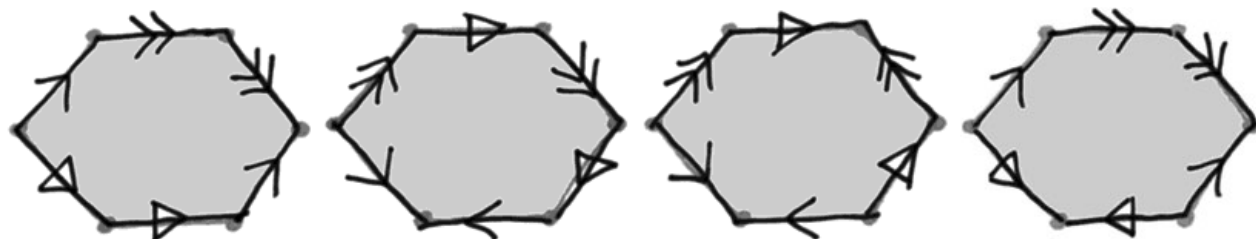
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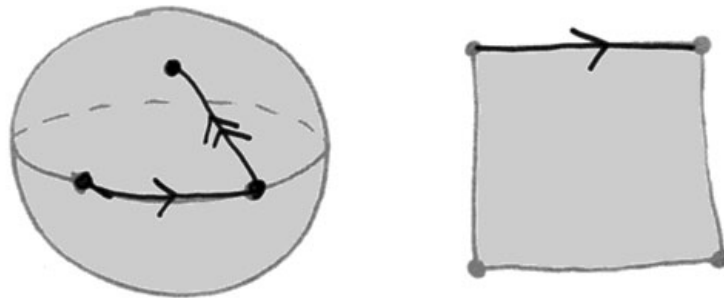
First Exam BD

Surfaces and Knots, Dave Bayer, February 21, 2002
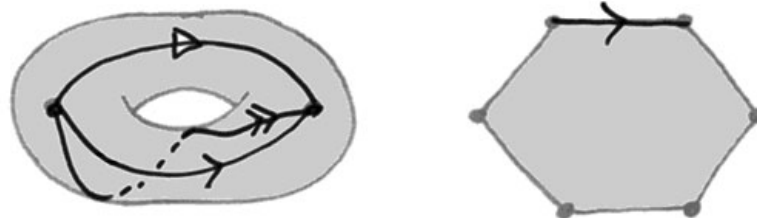
Name: _____ **School:** _____

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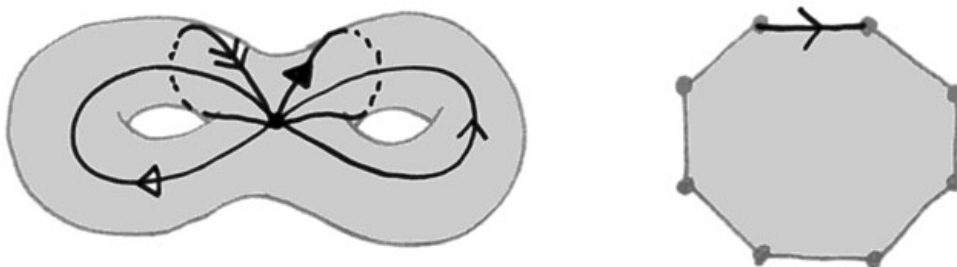

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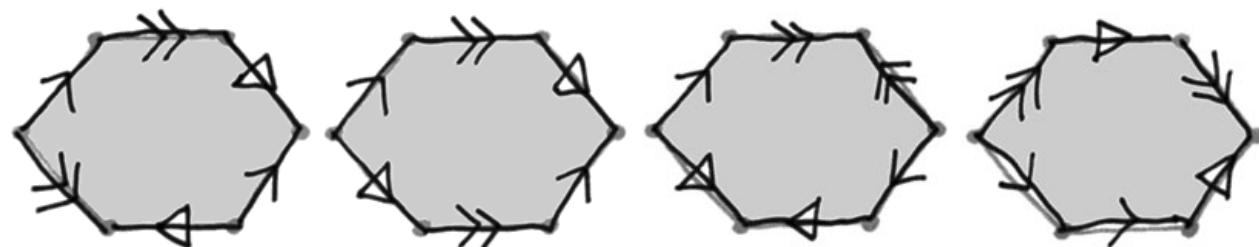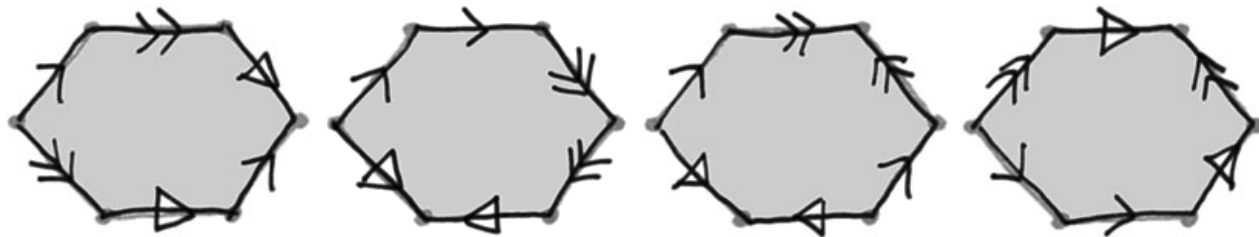
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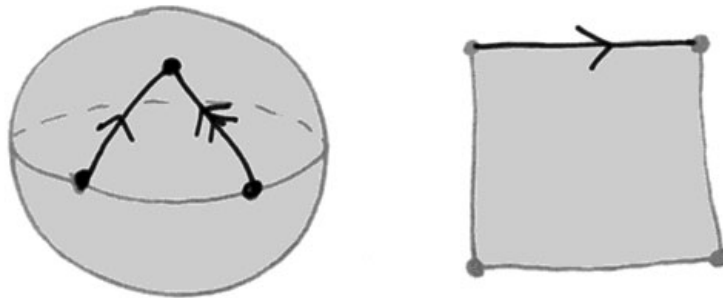
First Exam BE

Surfaces and Knots, Dave Bayer, February 21, 2002
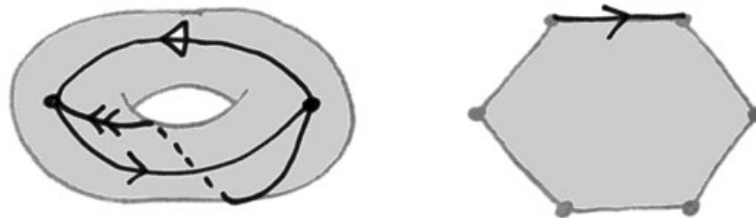
Name: _____ **School:** _____

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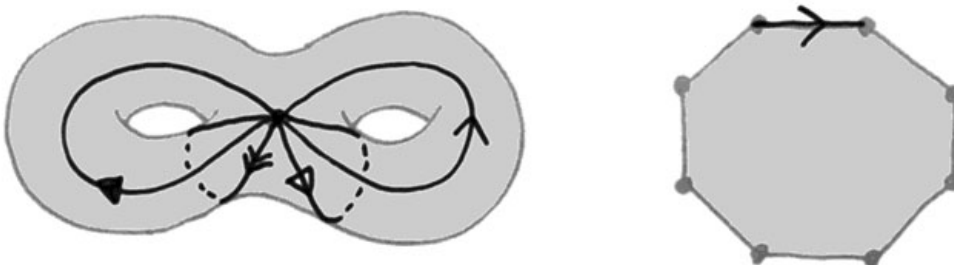
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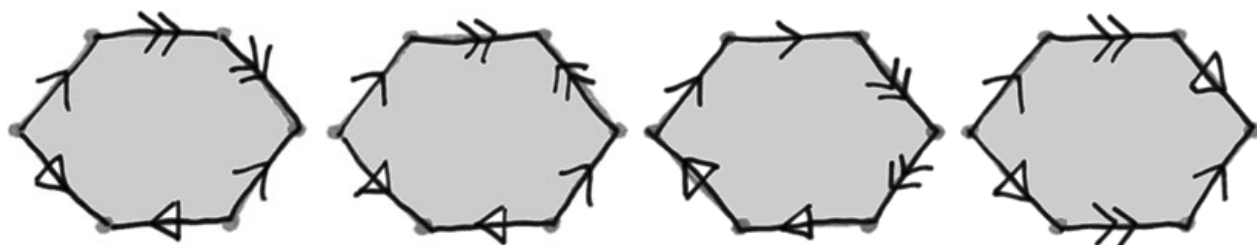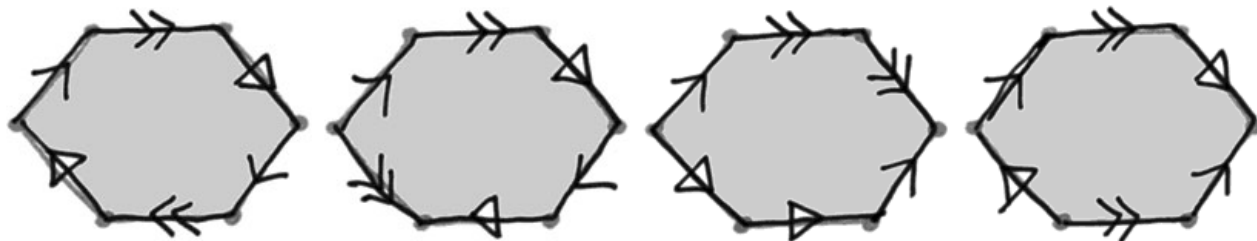
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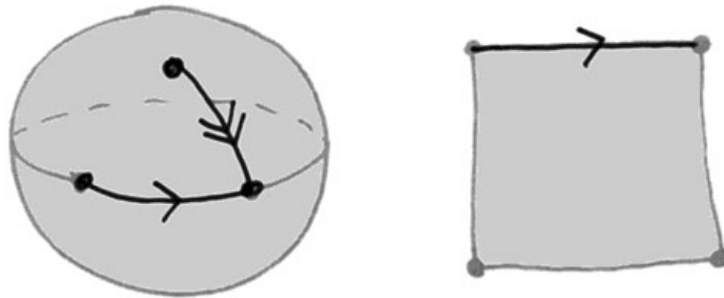
First Exam BF
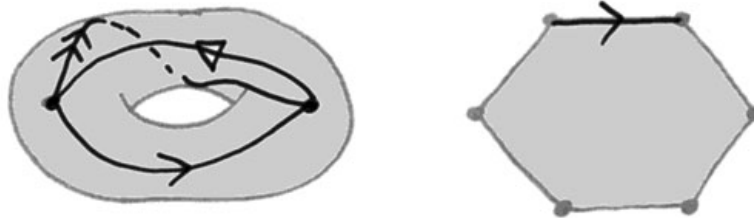
Surfaces and Knots, Dave Bayer, February 21, 2002

Name: ──────────────────────── **School:** ──────────

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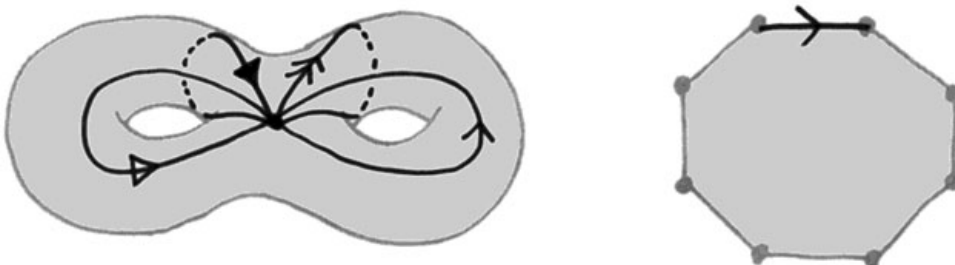**[2]** Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.

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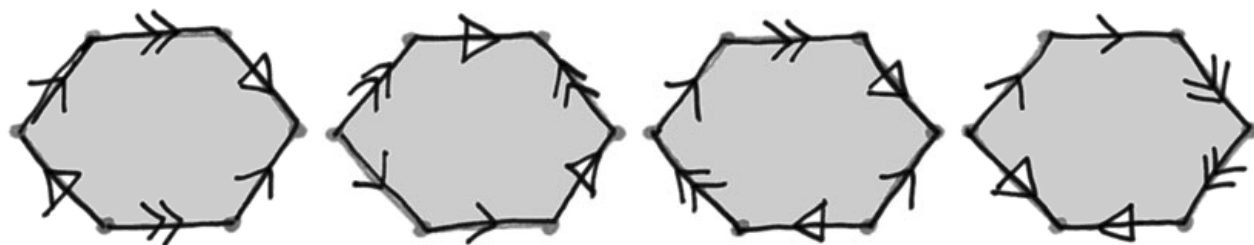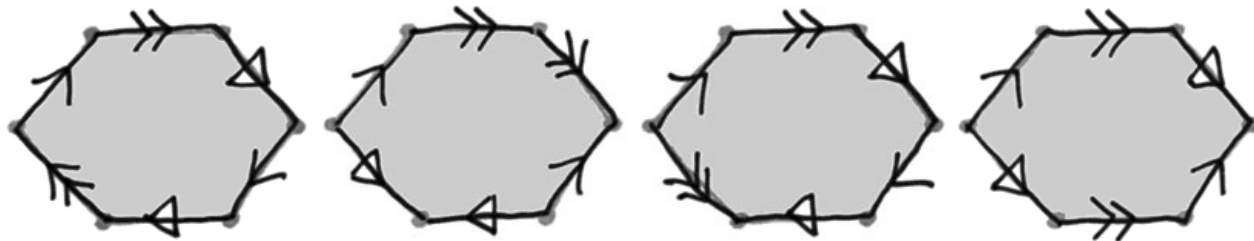
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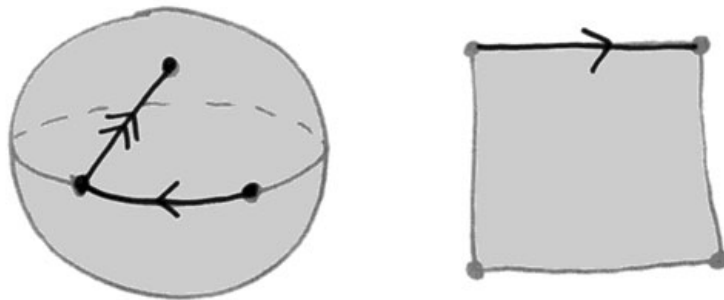
First Exam BG
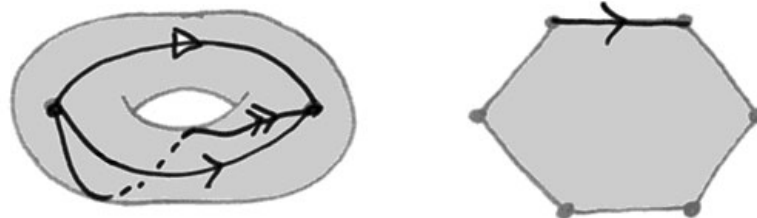
Surfaces and Knots, Dave Bayer, February 21, 2002

Name: ———————————————— **School:** —————

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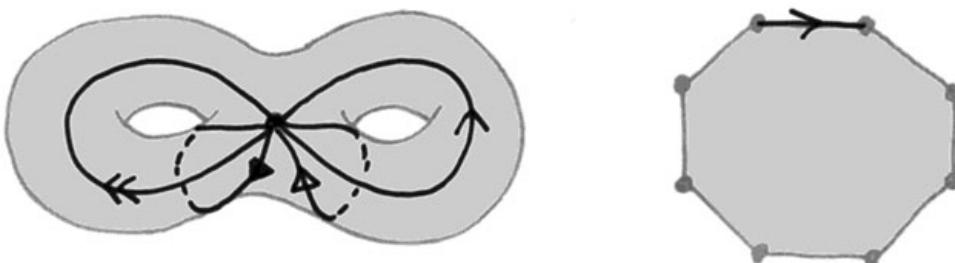[2] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.

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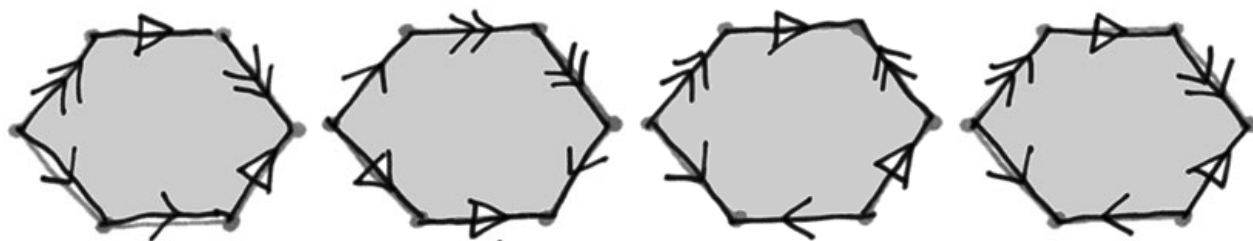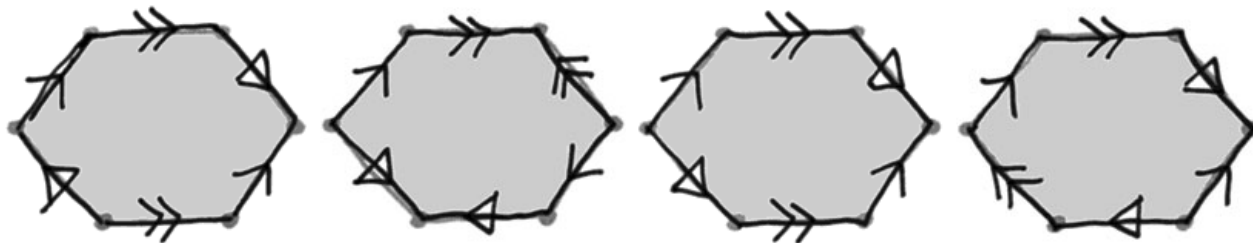
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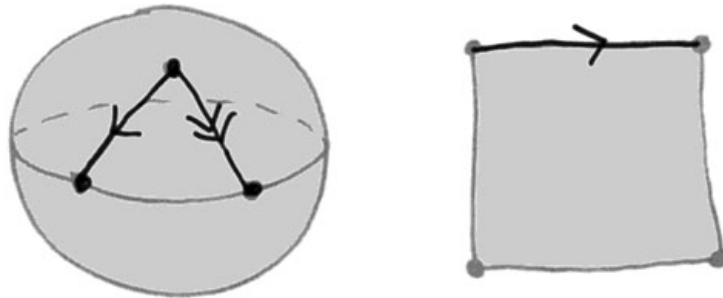
First Exam BH

Surfaces and Knots, Dave Bayer, February 21, 2002
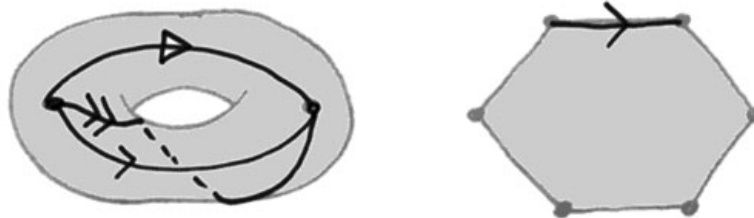
Name: _____ **School:** _____

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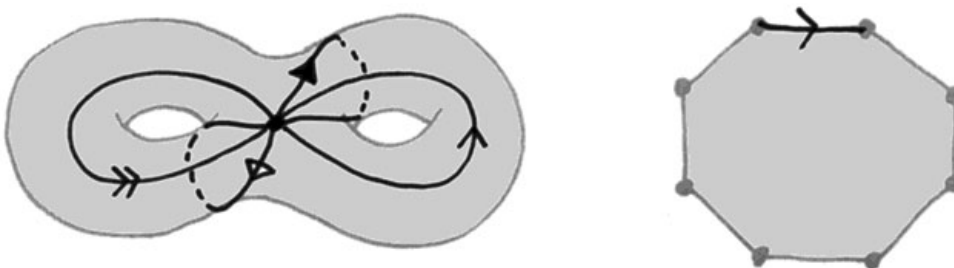

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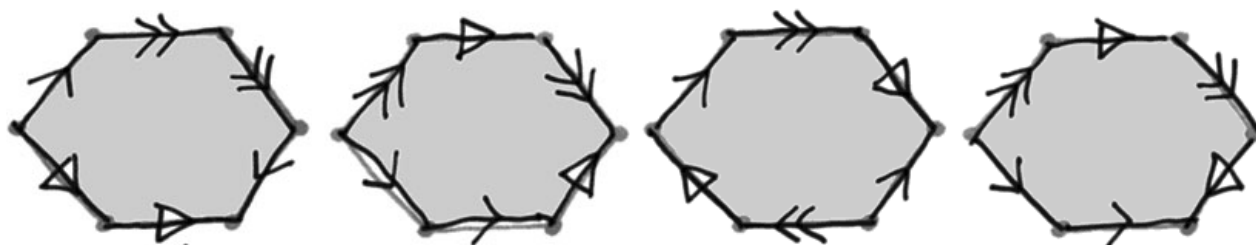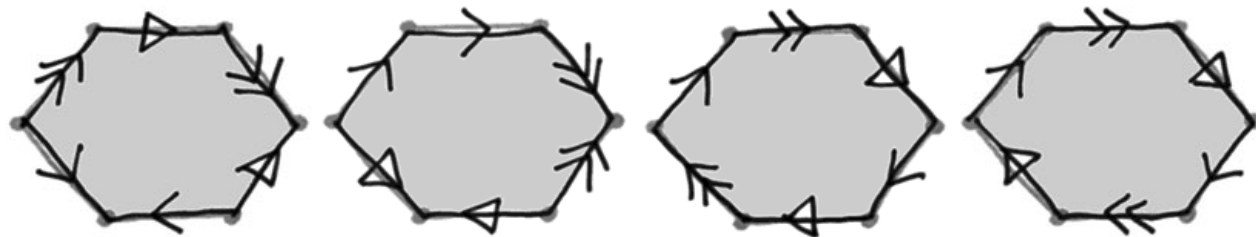
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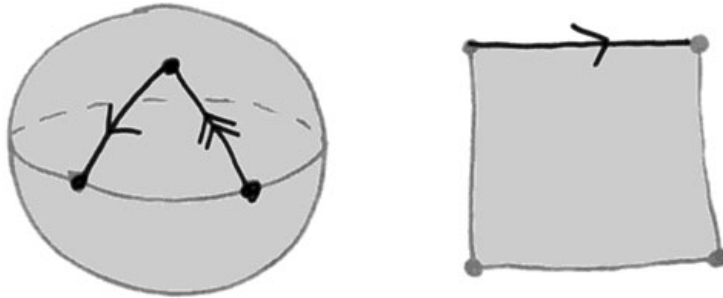
First Exam BI
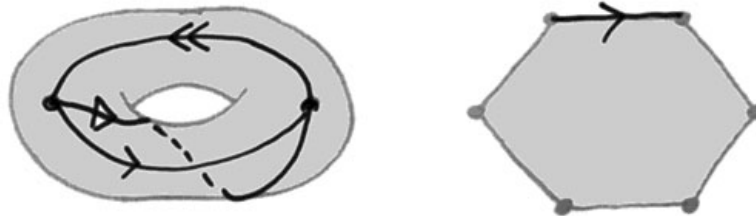
Surfaces and Knots, Dave Bayer, February 21, 2002

Name: ———————————————————— **School:** —————————

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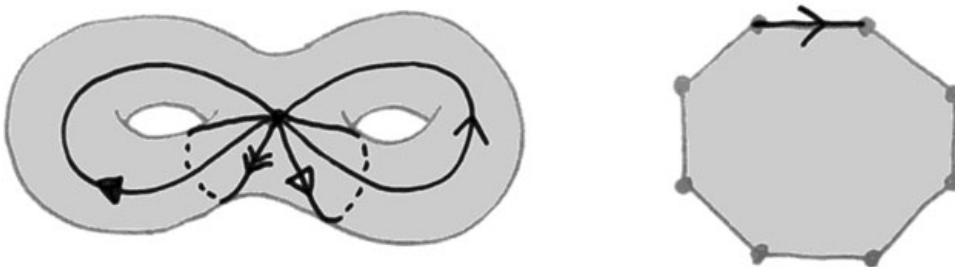

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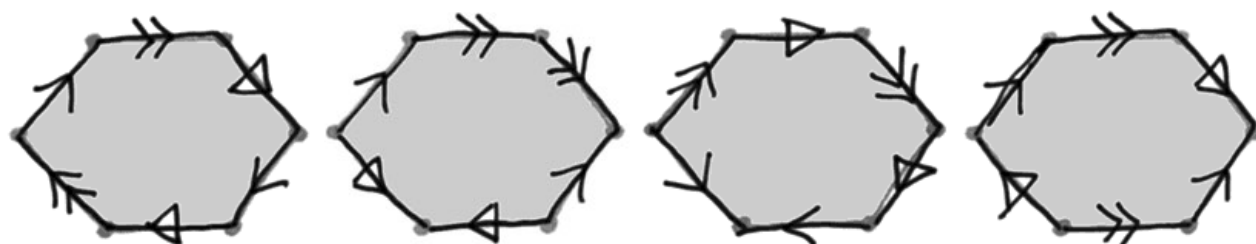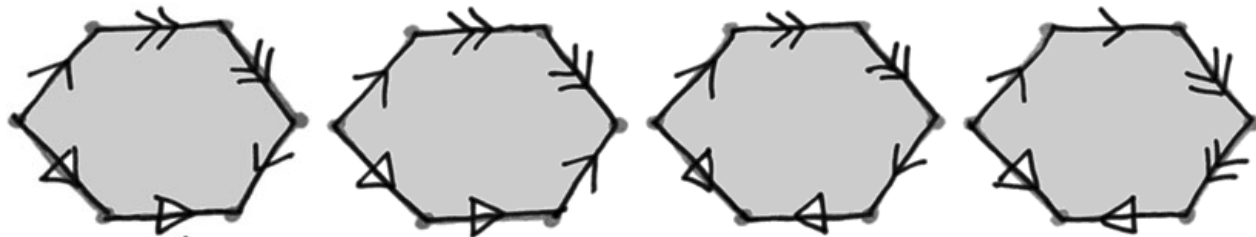
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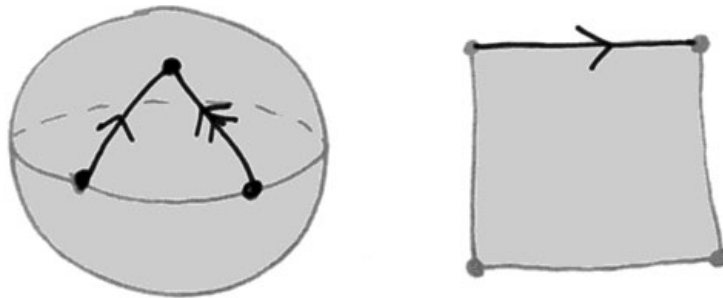
First Exam BJ

Surfaces and Knots, Dave Bayer, February 21, 2002
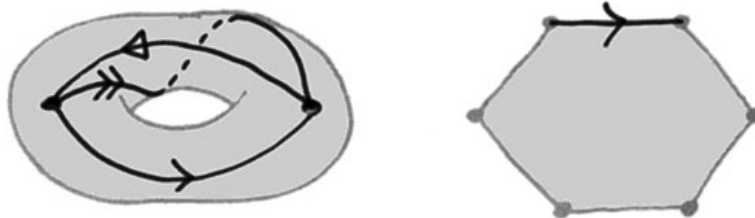
Name: _____ **School:** _____

[1]	[2]	[3]	[4]	[5]	**TOTAL**

You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.

[1] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
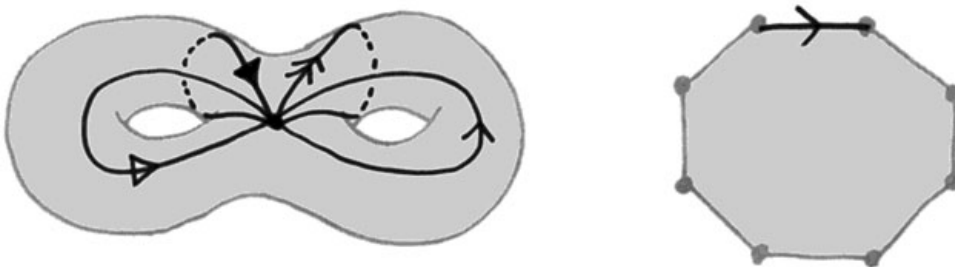

[2] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.

[3] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
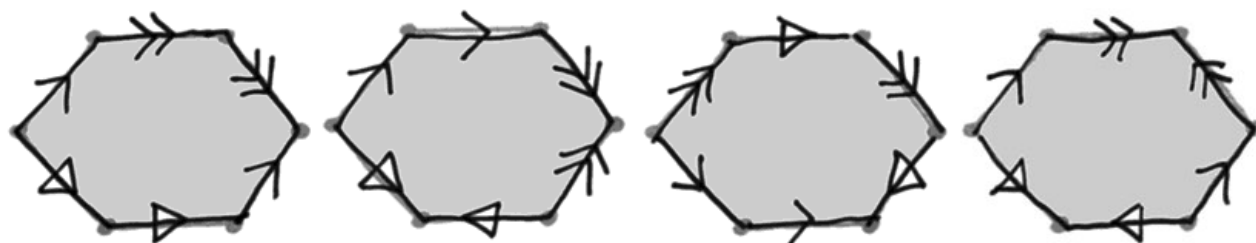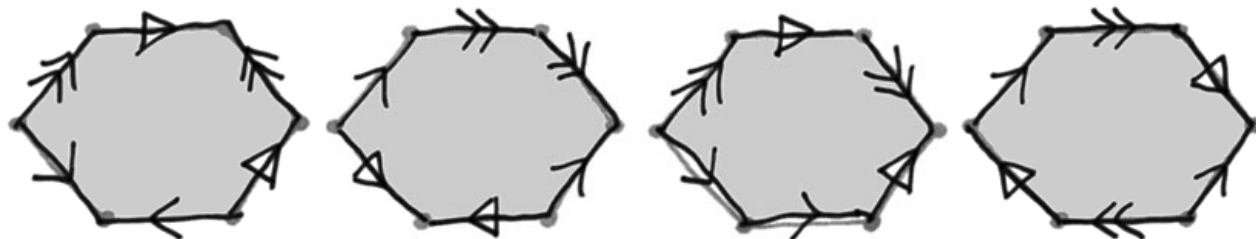
[4] Determine what surface each of the following gluing diagrams represents, by computing its Euler characteristic, and determining whether it is orientable or not.

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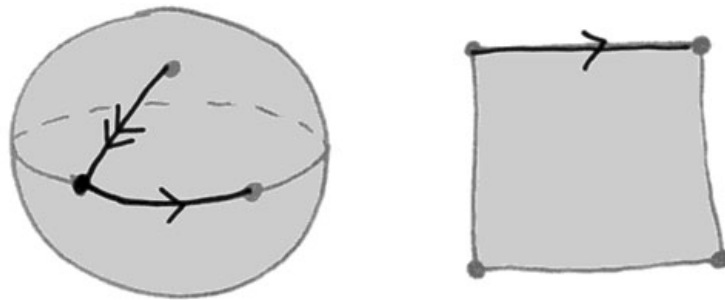
First Exam BK

Surfaces and Knots, Dave Bayer, February 21, 2002
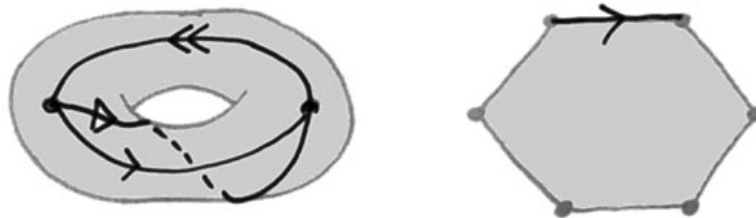
Name: _____ **School:** _____

[1]	[2]	[3]	[4]	[5]	**TOTAL**

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[1] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.

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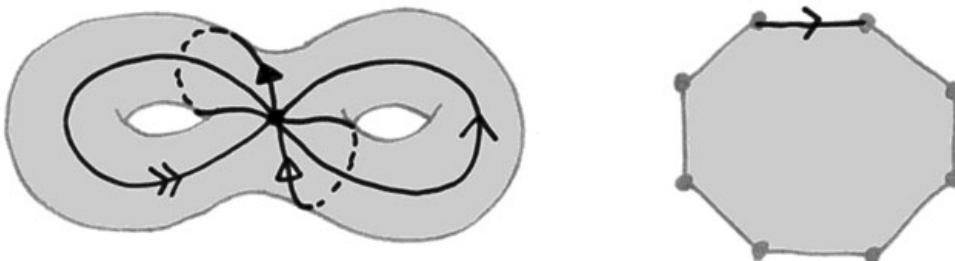
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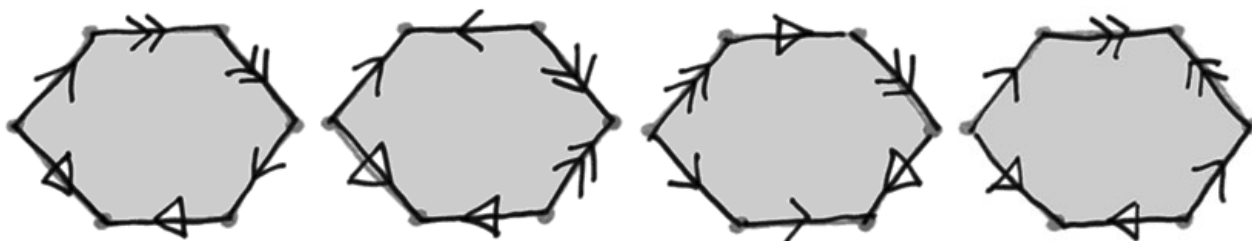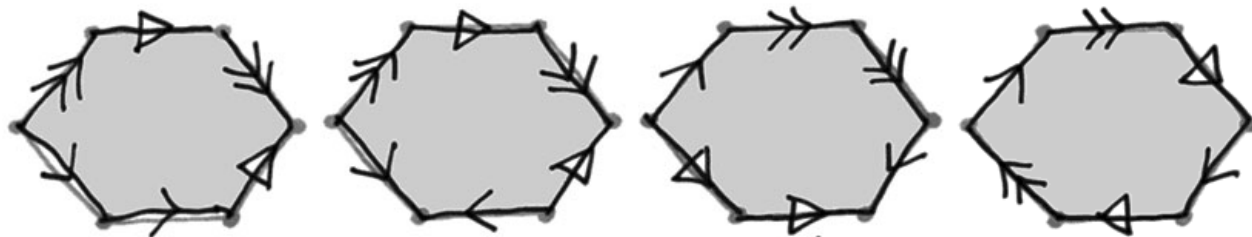
[4] Determine what surface each of the following gluing diagrams represents, by computing its Euler characteristic, and determining whether it is orientable or not.

[5] Find a pair of gluing diagrams, above, which represent the same surface. In any set of eight hexagonal gluing diagrams, why must there always be such a pair? Demonstrate that your pair represents the same surface, by modifying the diagrams until they agree.

First Exam BL

Surfaces and Knots, Dave Bayer, February 21, 2002

Name: _____ **School:** _____

[1]	**[2]**	**[3]**	**[4]**	**[5]**	**TOTAL**

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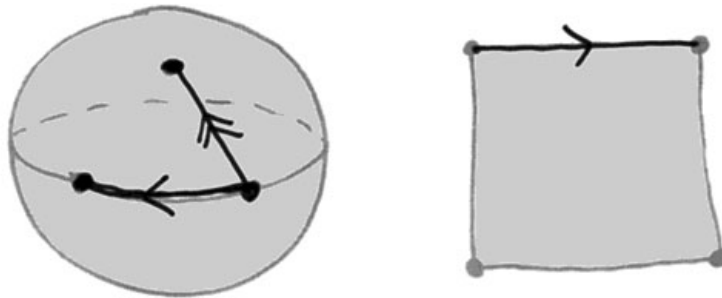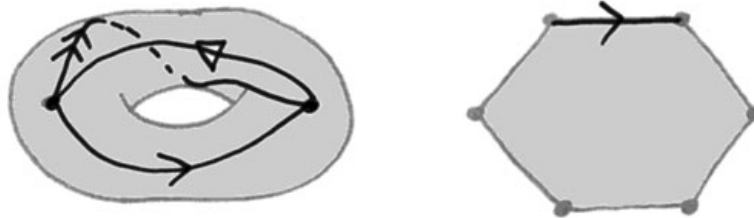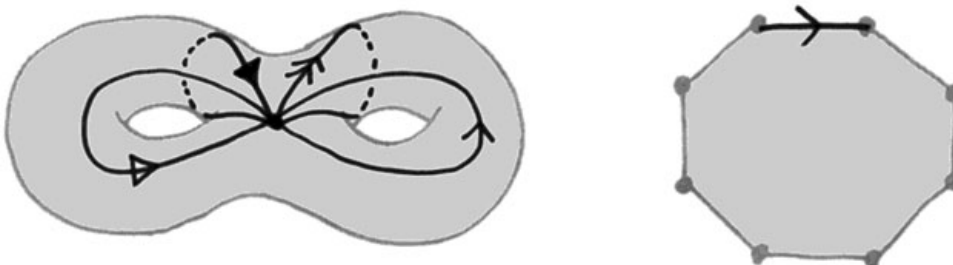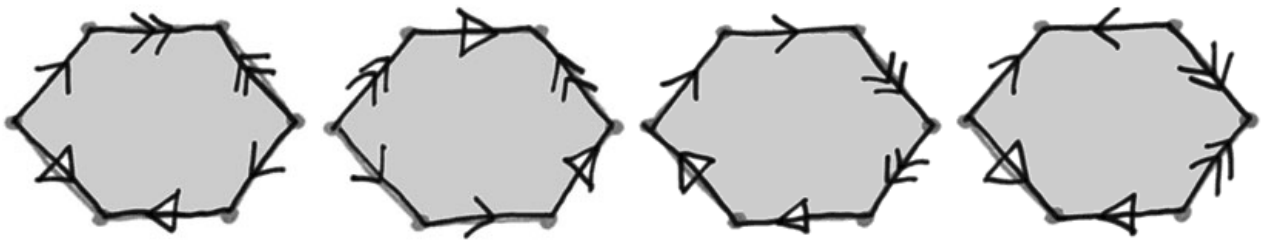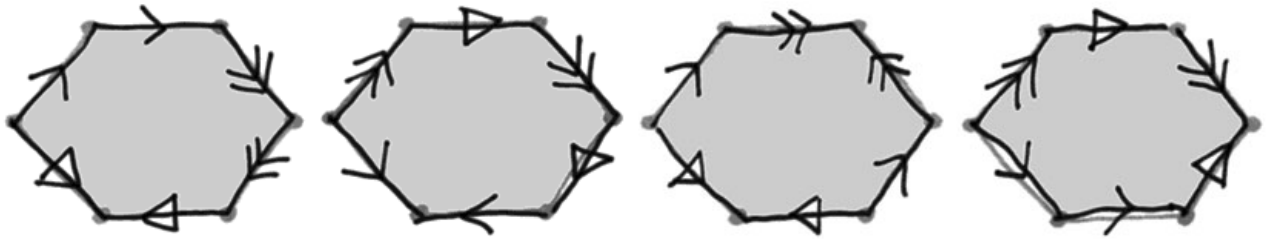
First Exam BM

Surfaces and Knots, Dave Bayer, February 21, 2002

Name: —————————————————— **School:** —————————

[1]	**[2]**	**[3]**	**[4]**	**[5]**	**TOTAL**

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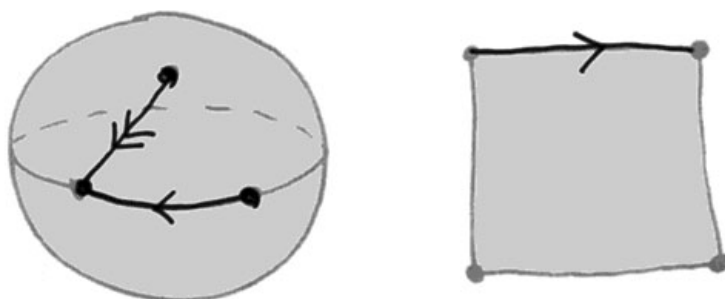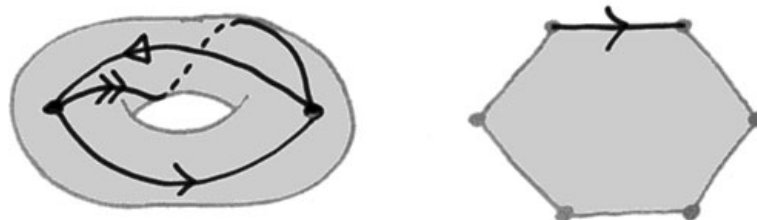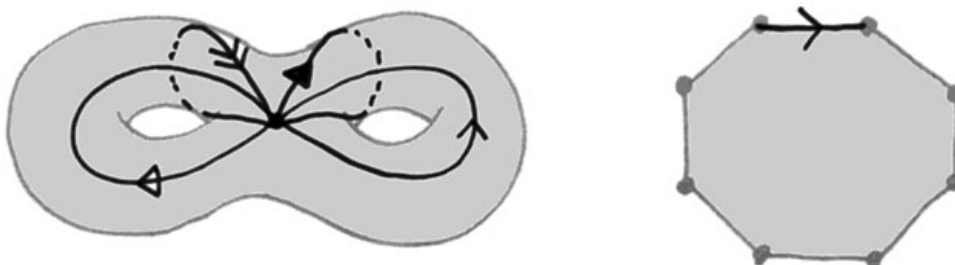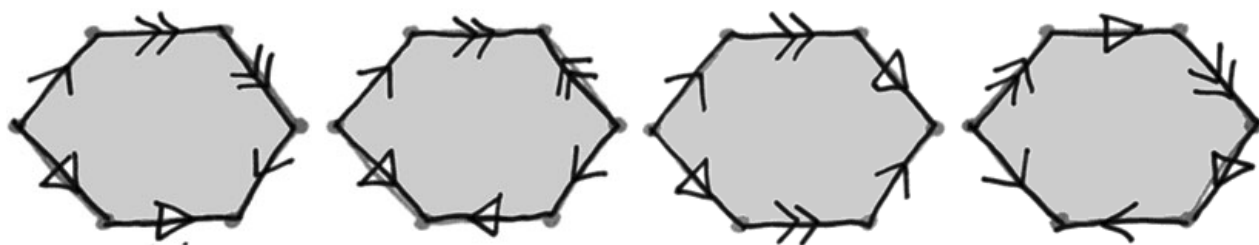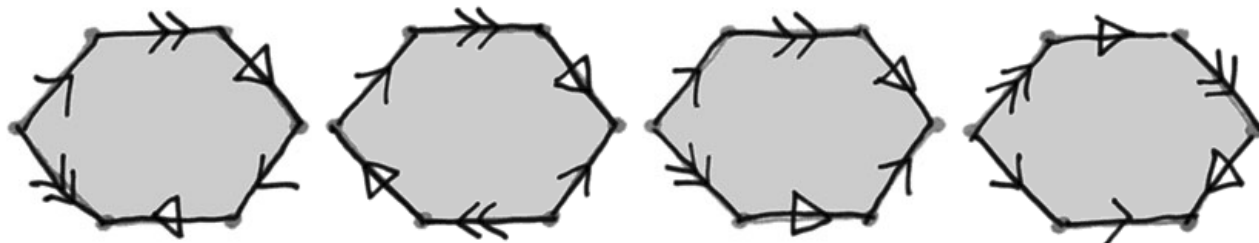
First Exam BN

Surfaces and Knots, Dave Bayer, February 21, 2002

Name: _____ **School:** _____

[1]	[2]	[3]	[4]	[5]	TOTAL

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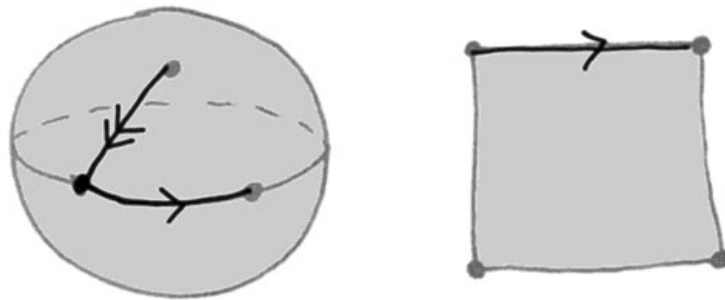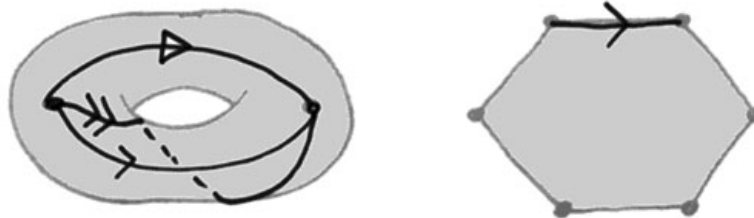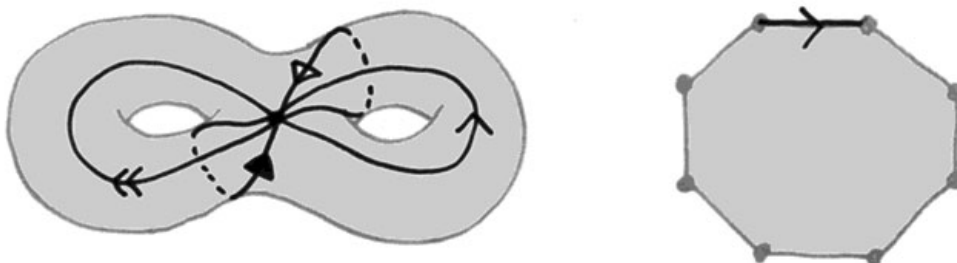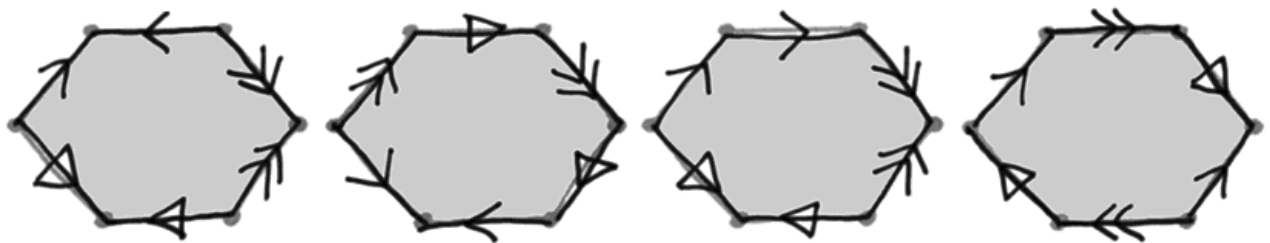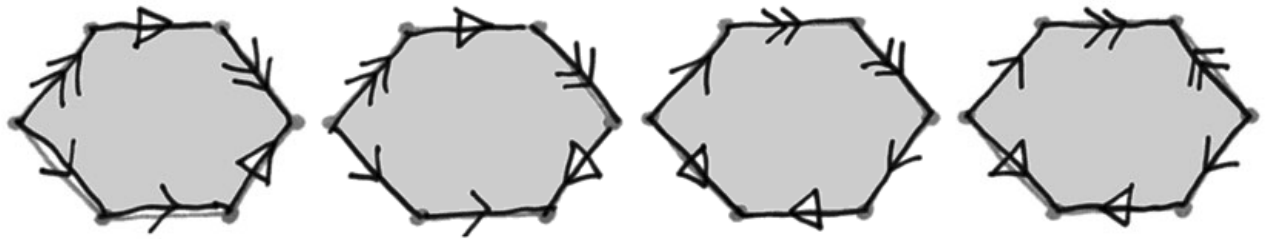
First Exam CA

Surfaces and Knots, Dave Bayer, February 21, 2002

Name: _____ **School:** _____

[1]	[2]	[3]	[4]	[5]	TOTAL

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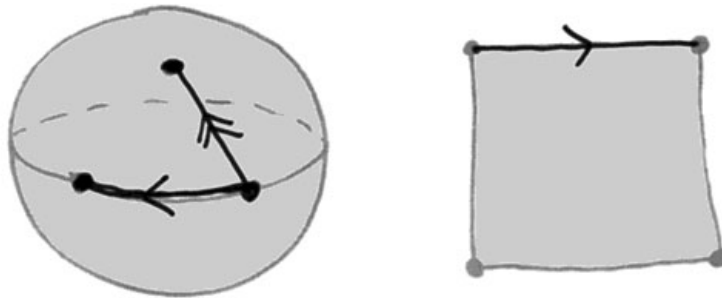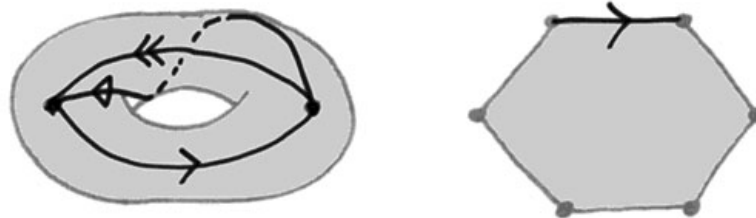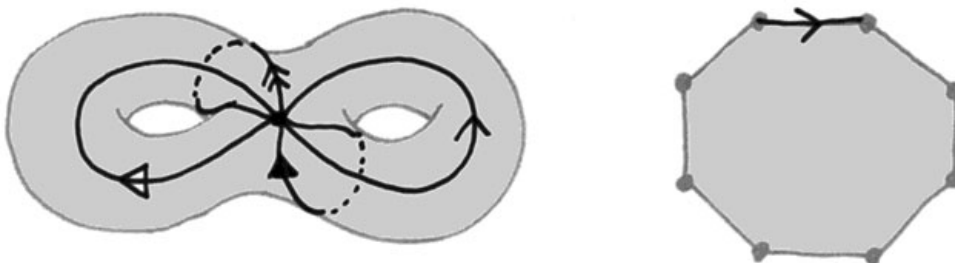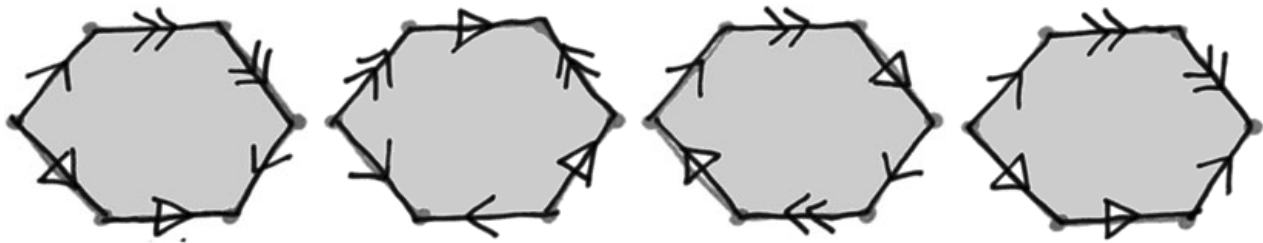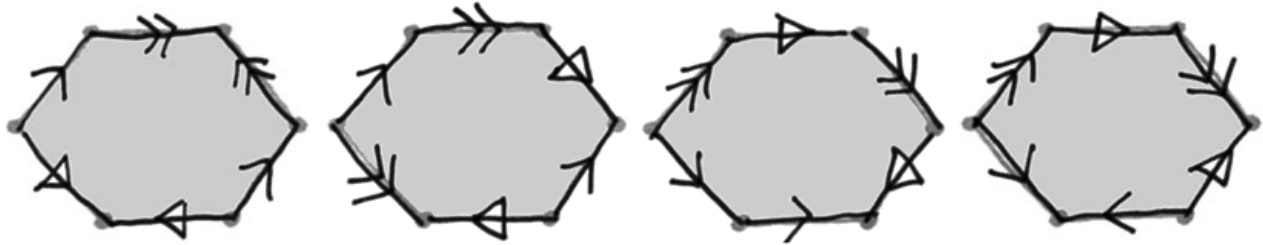
First Exam CB

Surfaces and Knots, Dave Bayer, February 21, 2002

Name: _____   **School:** _____

[1]	[2]	[3]	[4]	[5]	TOTAL

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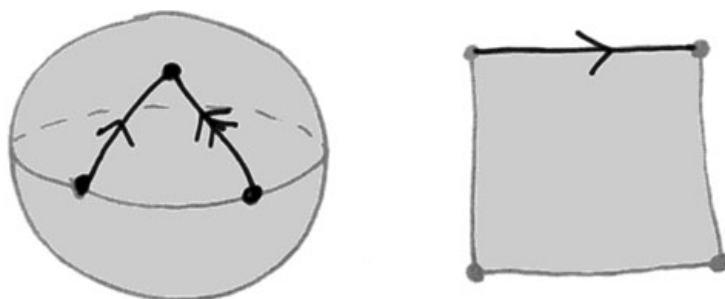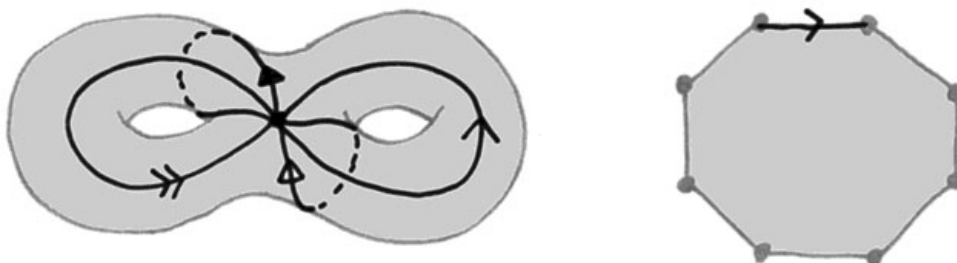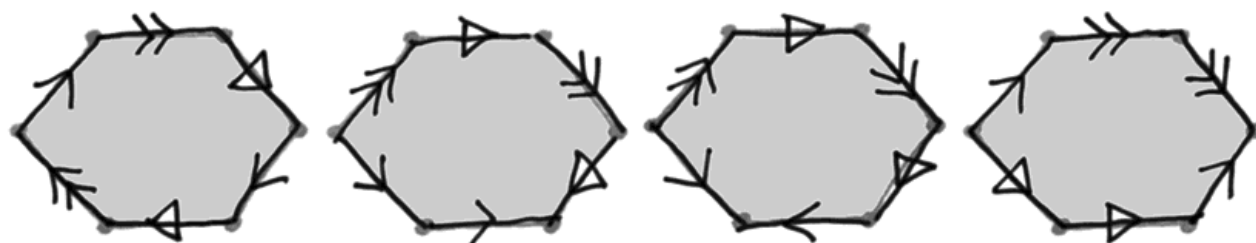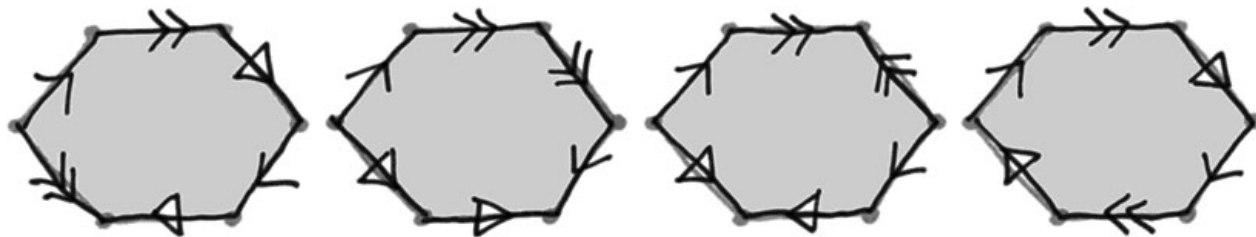
First Exam CC

Surfaces and Knots, Dave Bayer, February 21, 2002

Name: _____ **School:** _____

[1]	[2]	[3]	[4]	[5]	TOTAL

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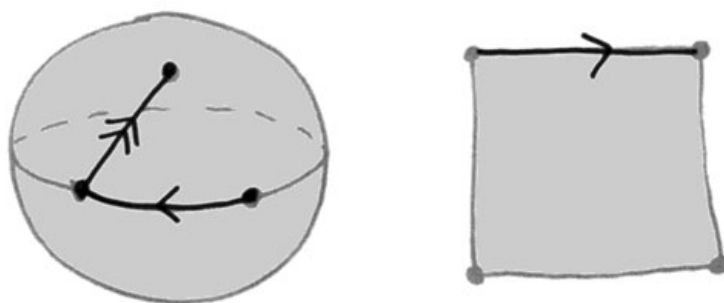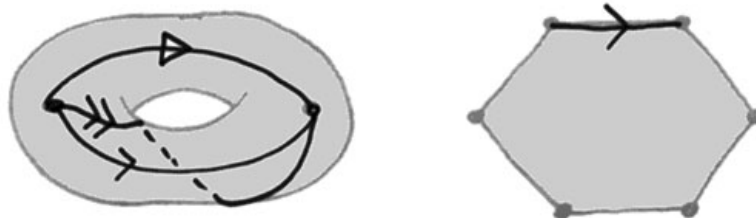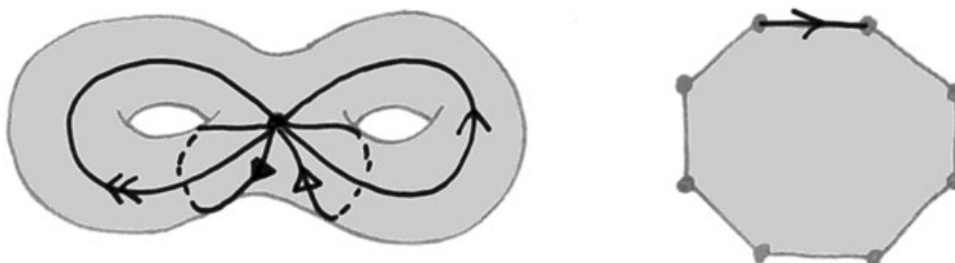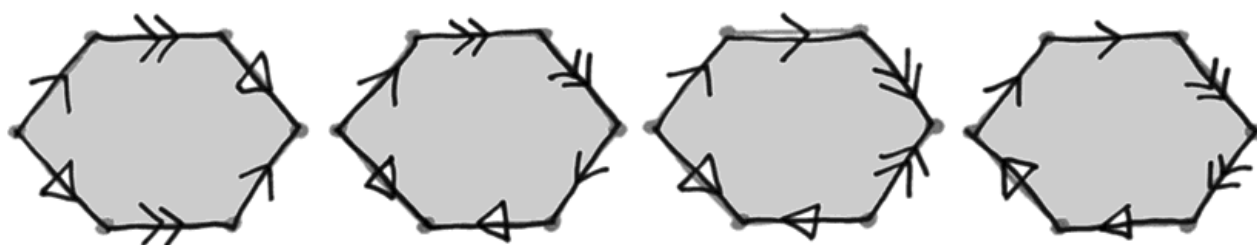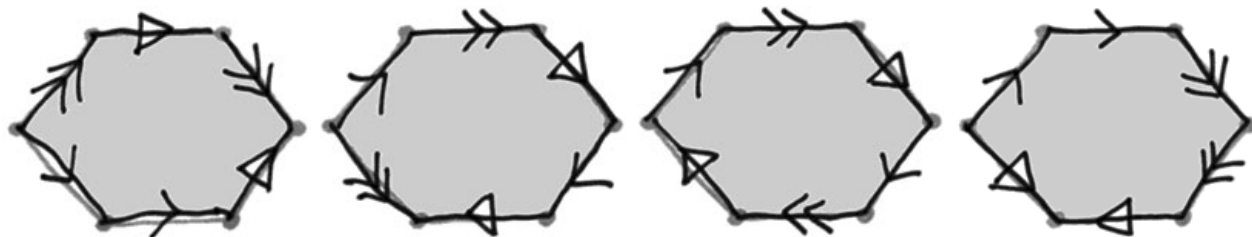
First Exam CD

Surfaces and Knots, Dave Bayer, February 21, 2002

Name: ——————————————— **School:** ——————

[1]	[2]	[3]	[4]	[5]	**TOTAL**

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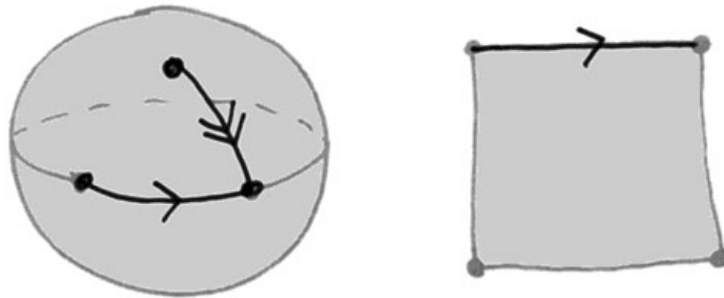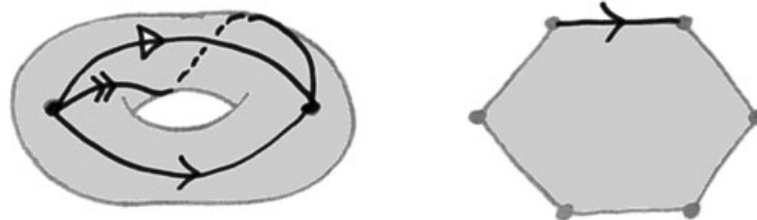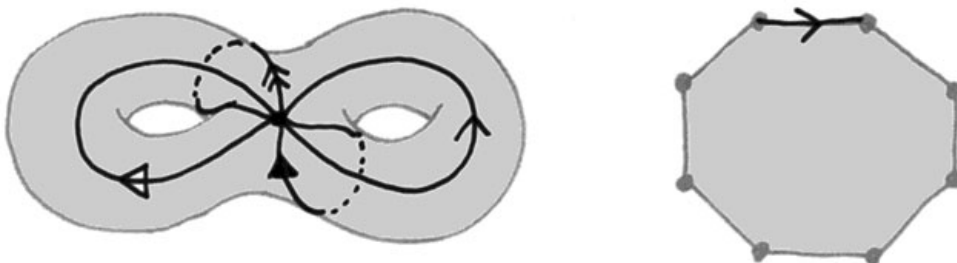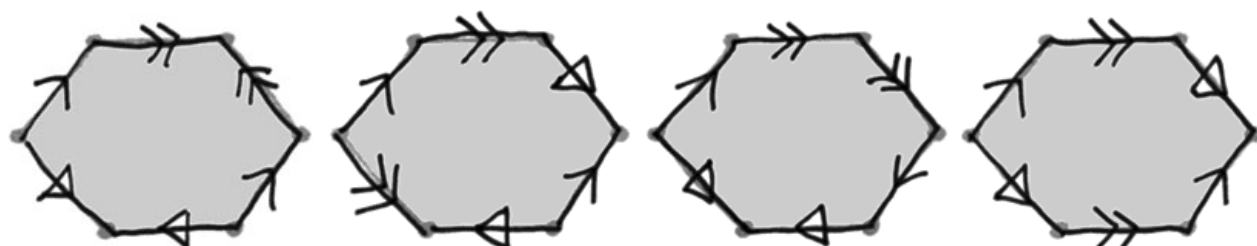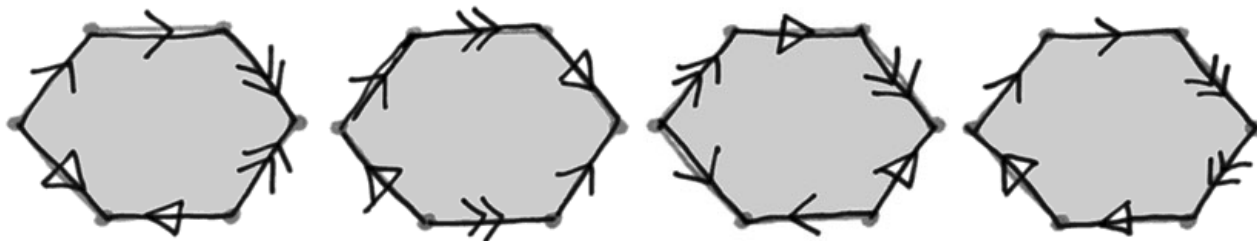
First Exam CE

Surfaces and Knots, Dave Bayer, February 21, 2002

Name: _____   **School:** _____

[1]	[2]	[3]	[4]	[5]	TOTAL

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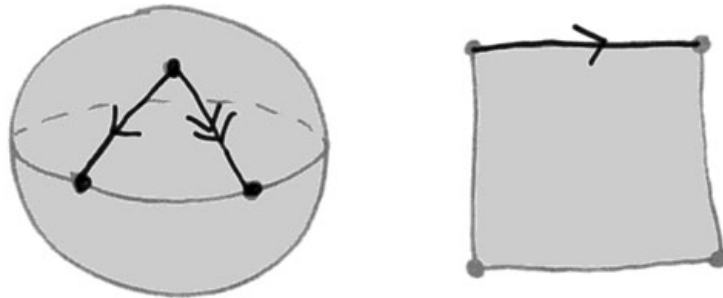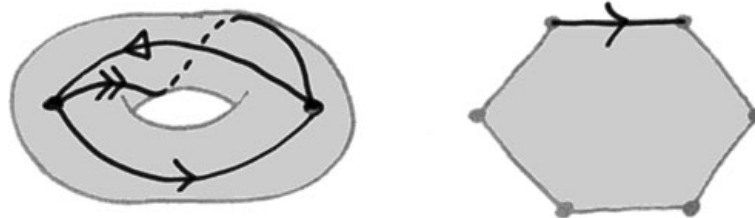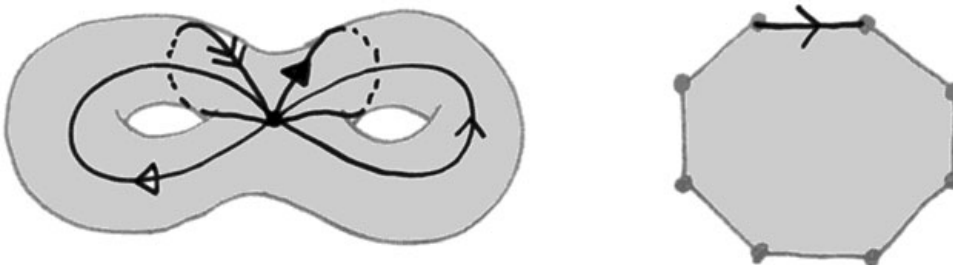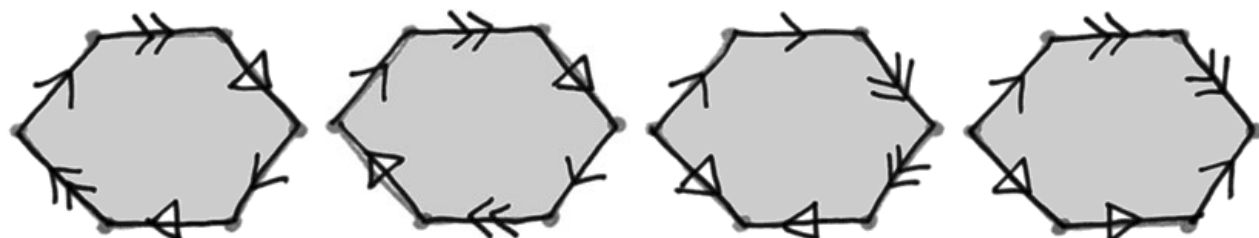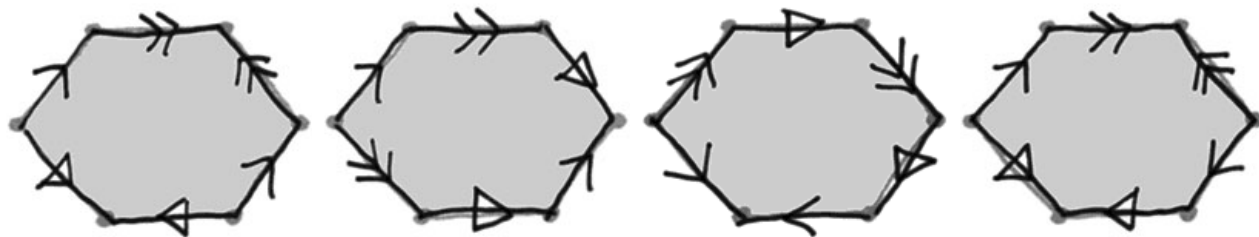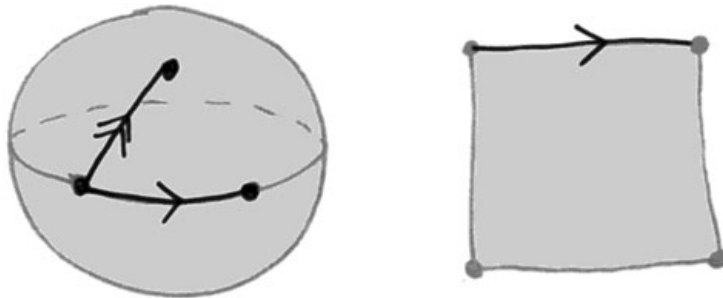
First Exam CF
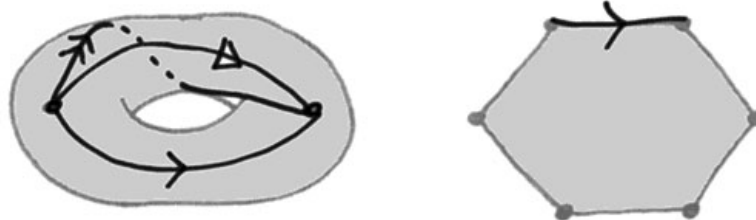
Surfaces and Knots, Dave Bayer, February 21, 2002

Name: ⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯ **School:** ⎯⎯⎯⎯⎯⎯

[1]	[2]	[3]	[4]	[5]	TOTAL

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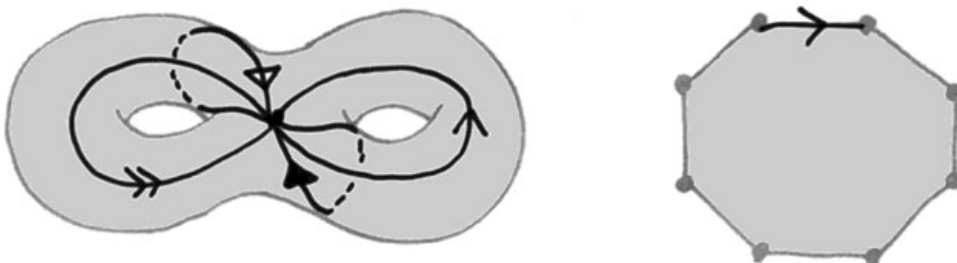
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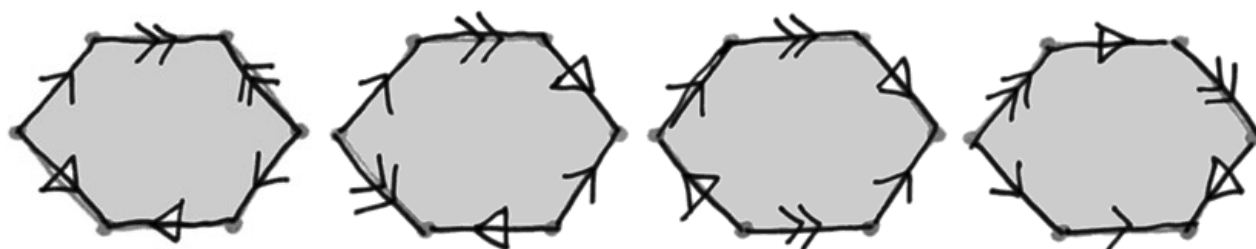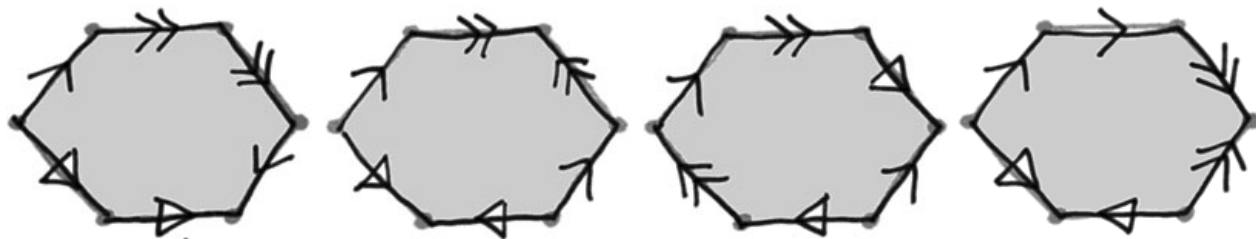
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First Exam CG

Surfaces and Knots, Dave Bayer, February 21, 2002

Name: _____   **School:** _____

[1]	[2]	[3]	[4]	[5]	TOTAL

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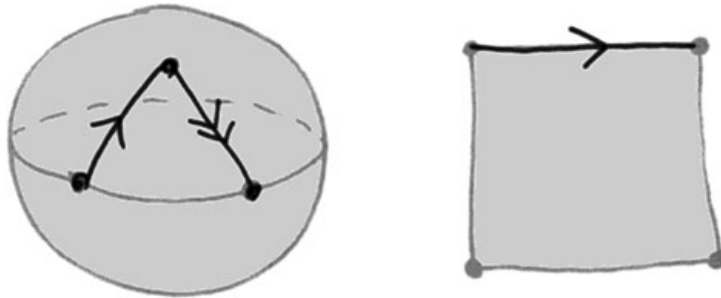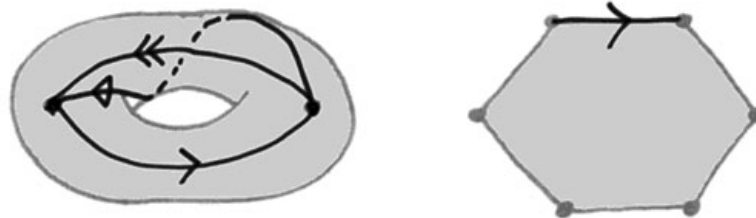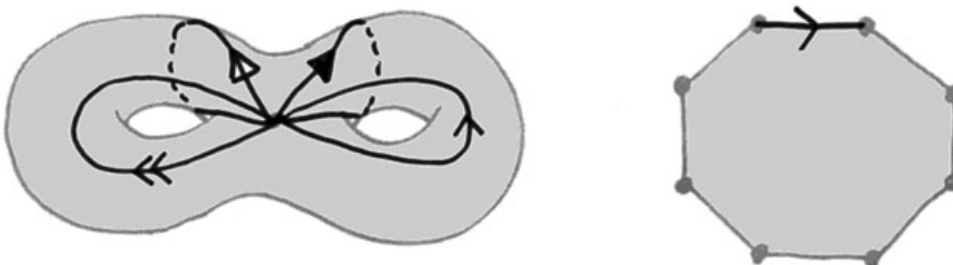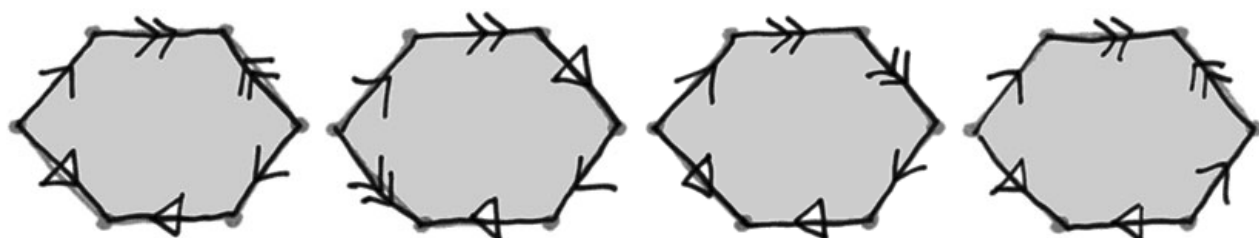
First Exam CH

Surfaces and Knots, Dave Bayer, February 21, 2002

Name: —————————————————— **School:** —————

[1]	**[2]**	**[3]**	**[4]**	**[5]**	**TOTAL**

You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.

[1] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
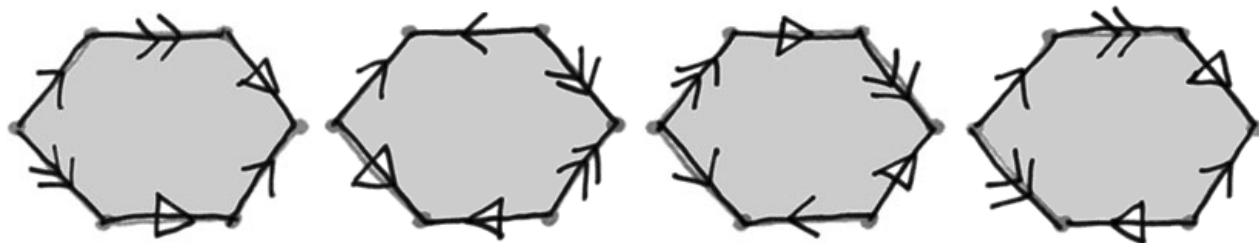

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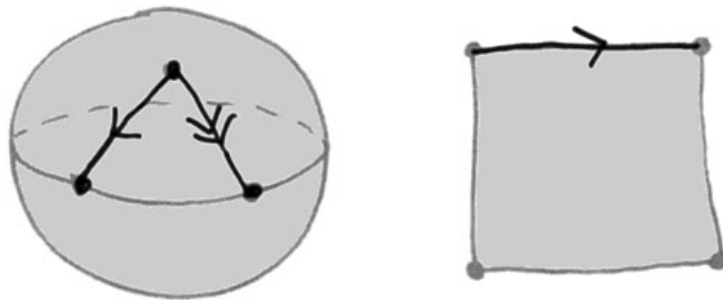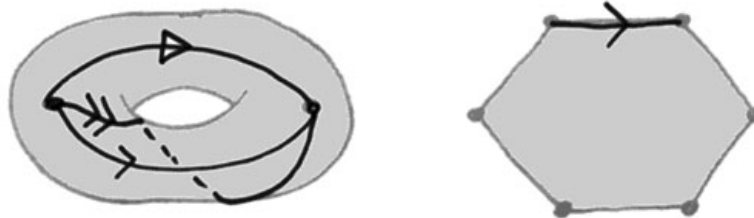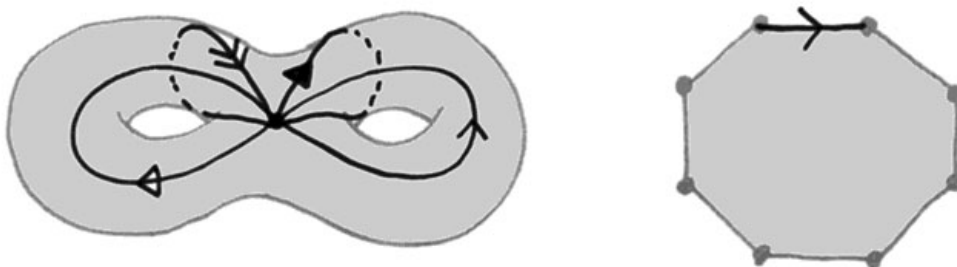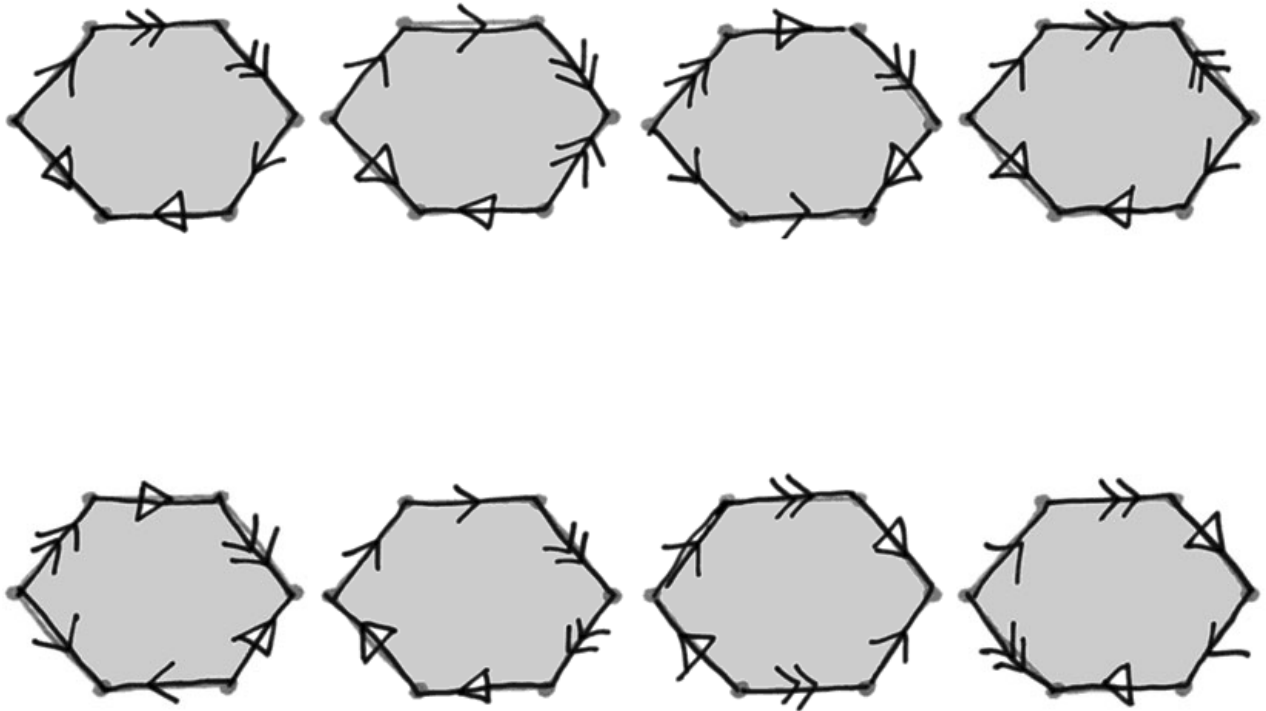
First Exam CI

Surfaces and Knots, Dave Bayer, February 21, 2002

Name: _____   **School:** _____

[1]	[2]	[3]	[4]	[5]	TOTAL

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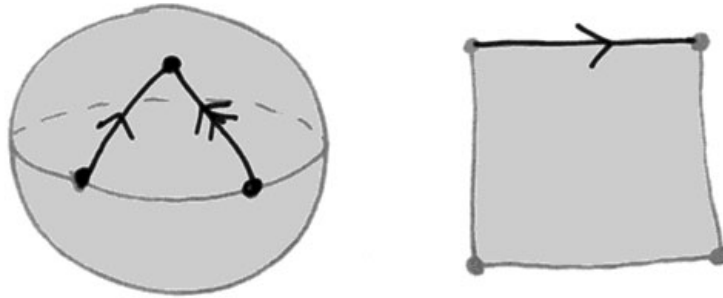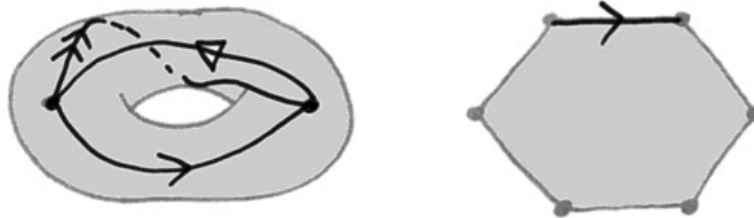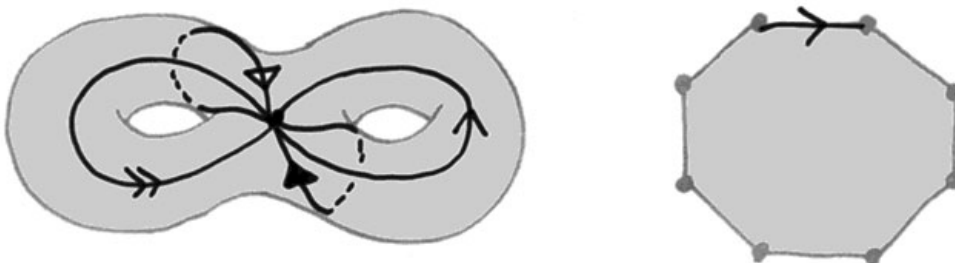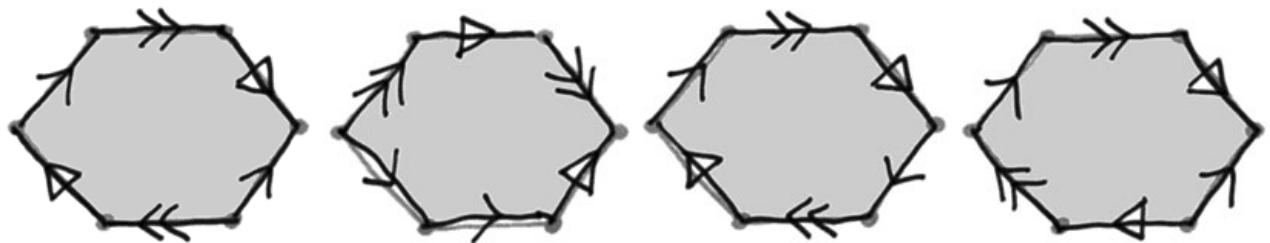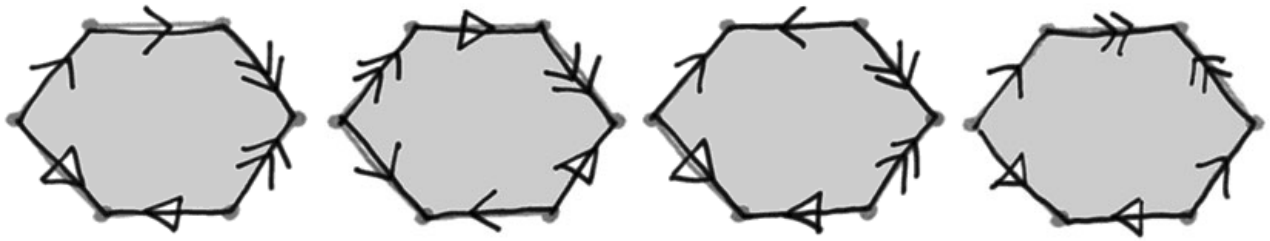
First Exam CJ

Surfaces and Knots, Dave Bayer, February 21, 2002

Name: _____ **School:** _____

[1]	**[2]**	**[3]**	**[4]**	**[5]**	**TOTAL**

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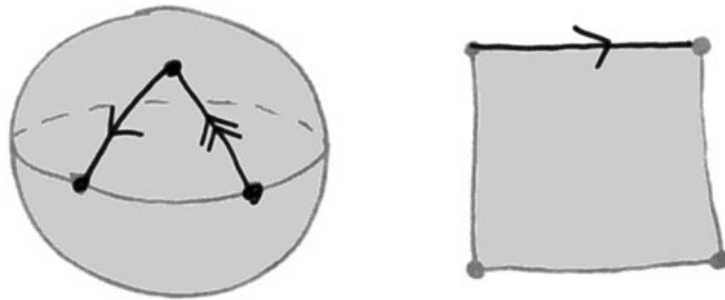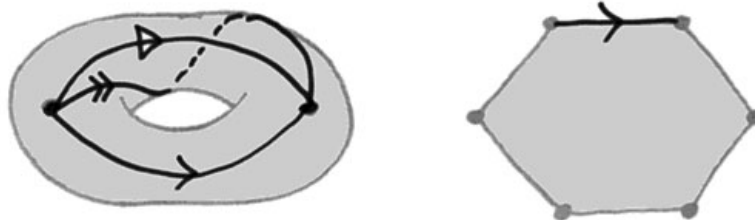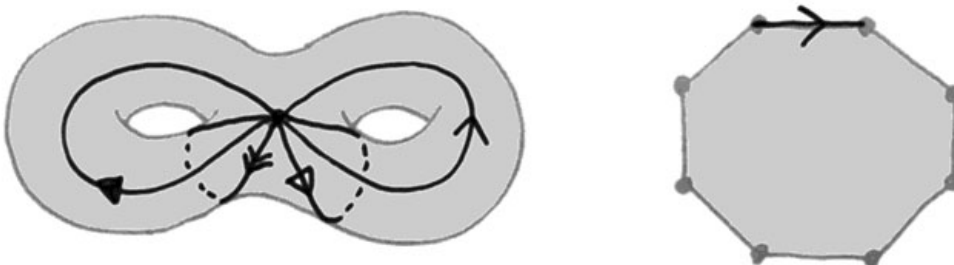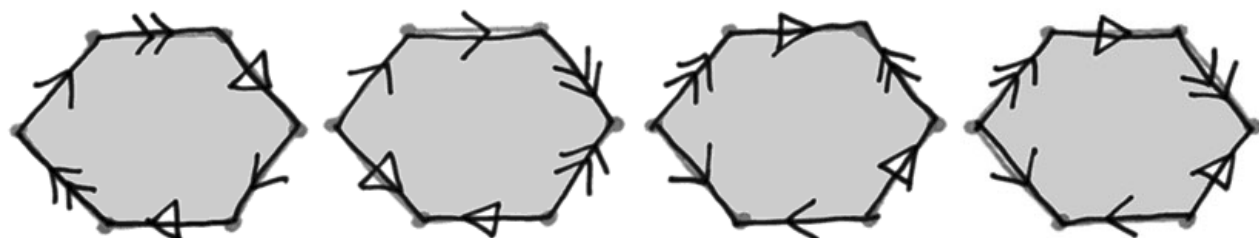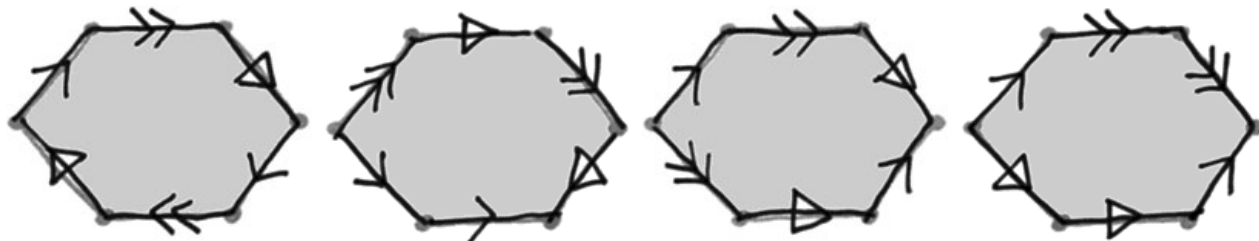
First Exam CK

Surfaces and Knots, Dave Bayer, February 21, 2002

Name: _____ **School:** _____

[1]	[2]	[3]	[4]	[5]	TOTAL

You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.

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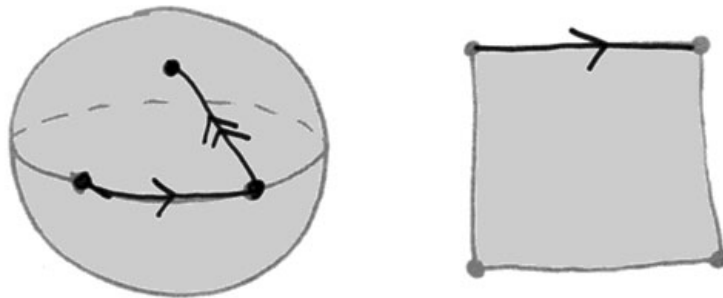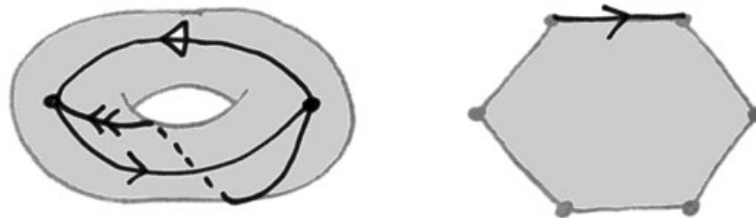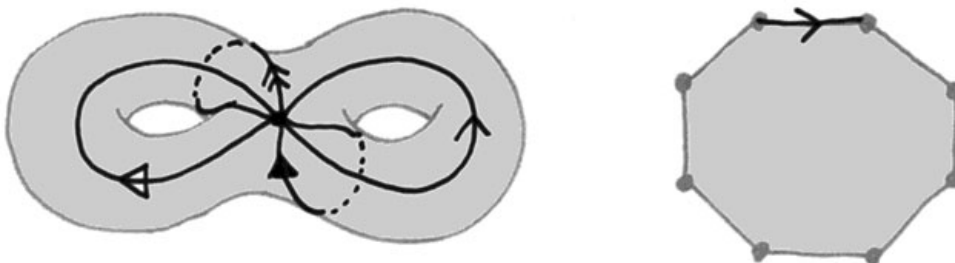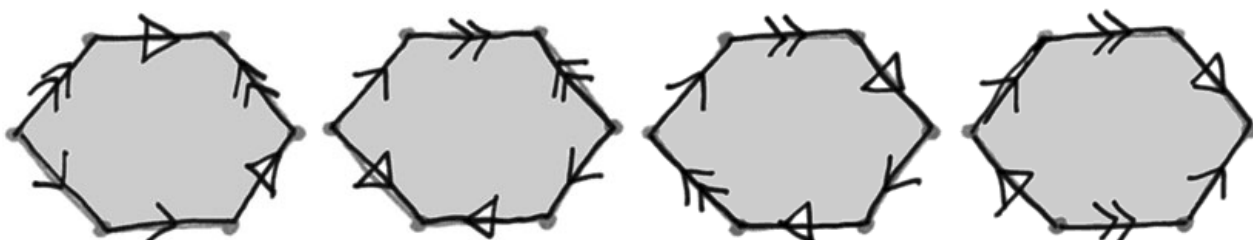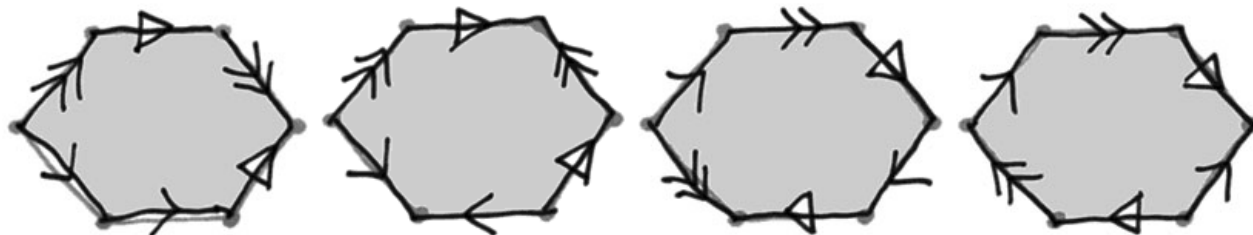
First Exam CL

Surfaces and Knots, Dave Bayer, February 21, 2002

Name: _____ **School:** _____

[1]	[2]	[3]	[4]	[5]	**TOTAL**

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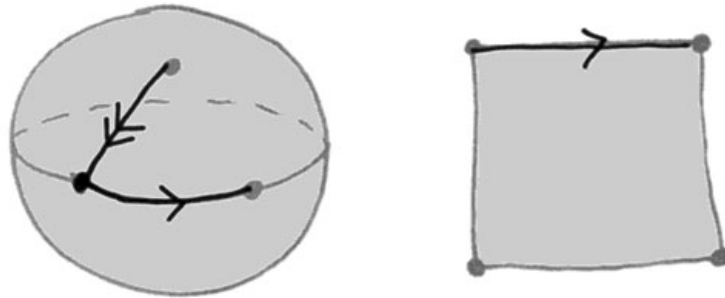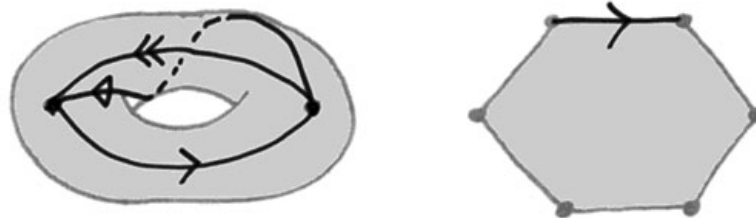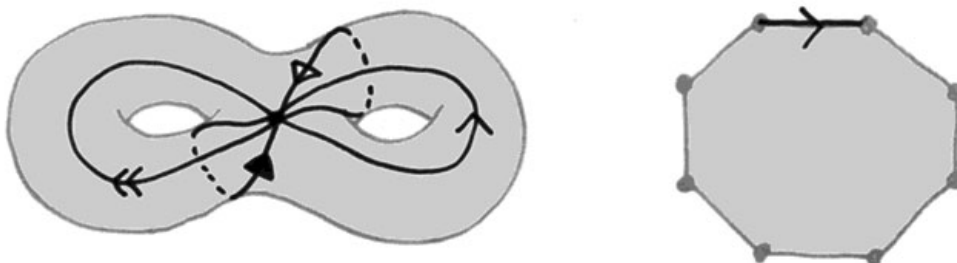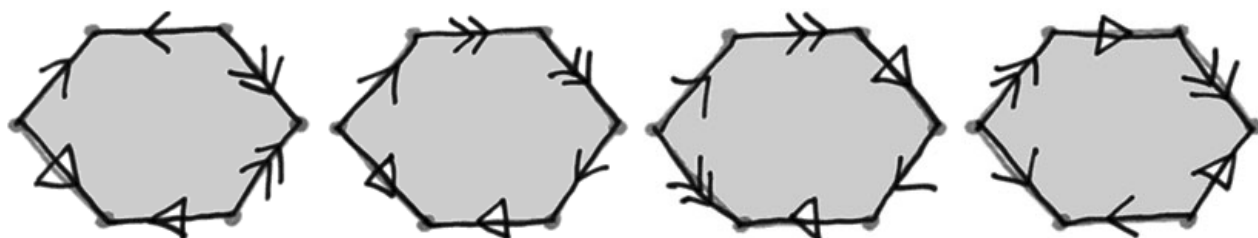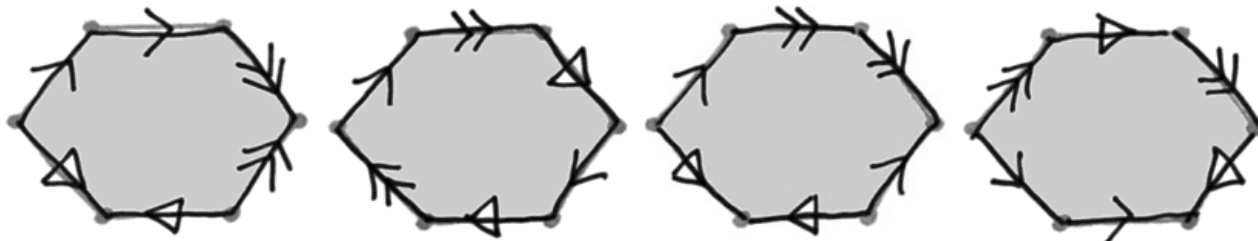
First Exam CM

Surfaces and Knots, Dave Bayer, February 21, 2002

Name: _____   **School:** _____

[1]	**[2]**	**[3]**	**[4]**	**[5]**	**TOTAL**

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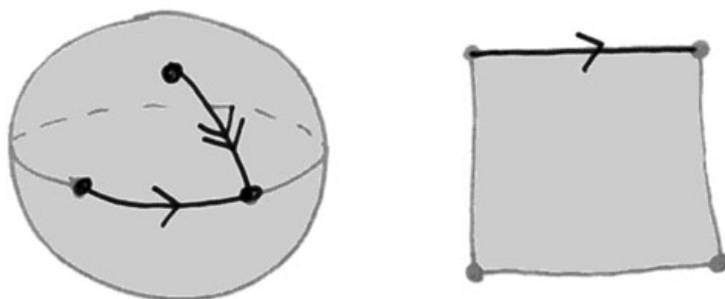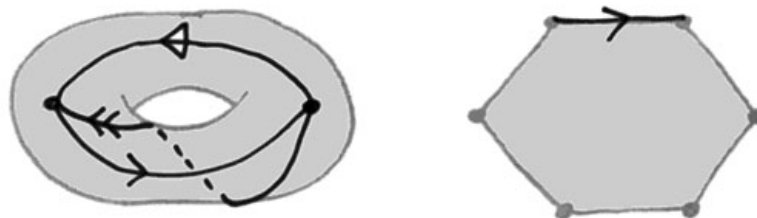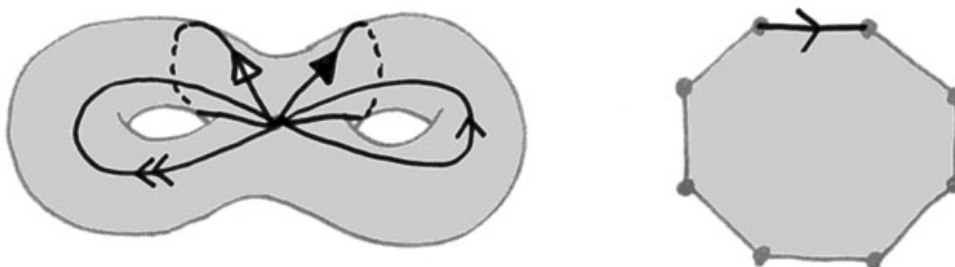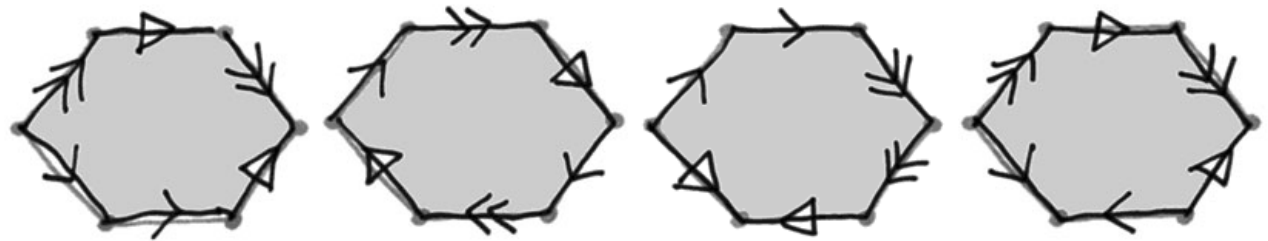
First Exam CN

Surfaces and Knots, Dave Bayer, February 21, 2002

Name: _____ **School:** _____

[1]	**[2]**	**[3]**	**[4]**	**[5]**	**TOTAL**

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[1] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
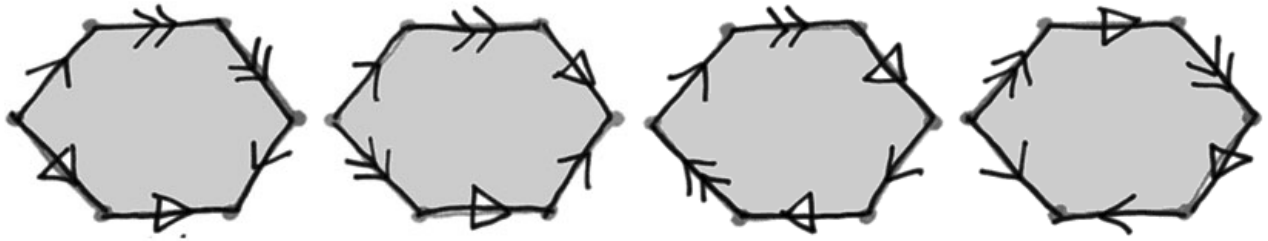

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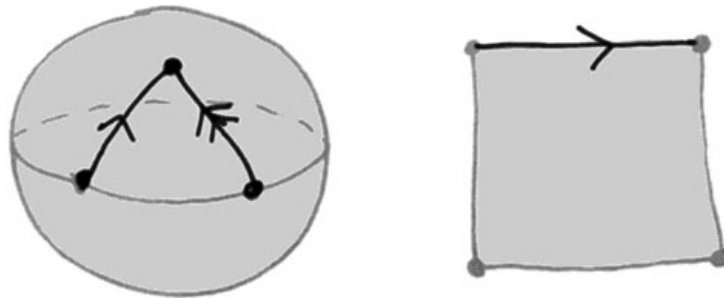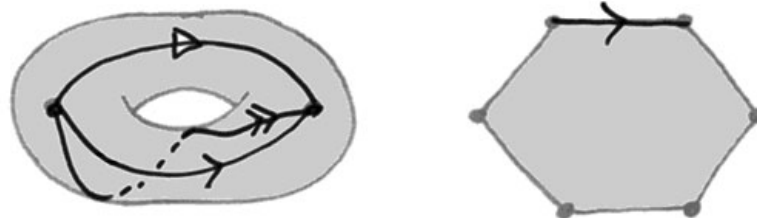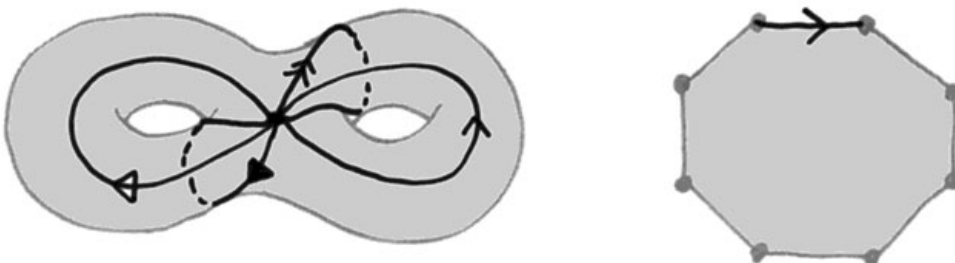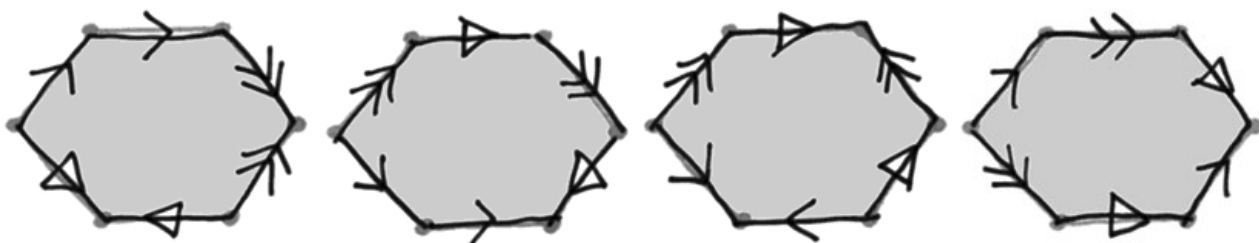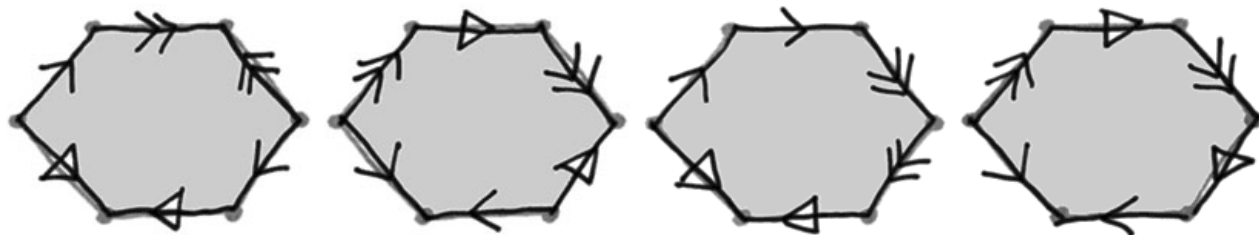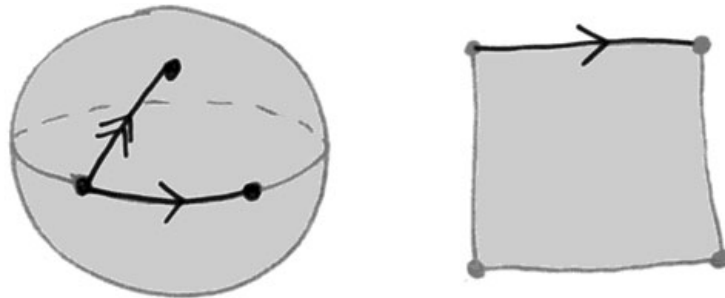
First Exam DA
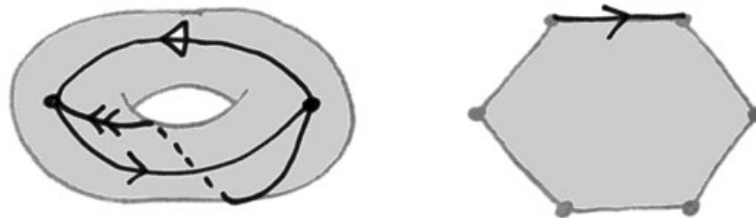
Surfaces and Knots, Dave Bayer, February 21, 2002

Name: ⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯ **School:** ⎯⎯⎯⎯⎯⎯⎯

[1]	**[2]**	**[3]**	**[4]**	**[5]**	**TOTAL**

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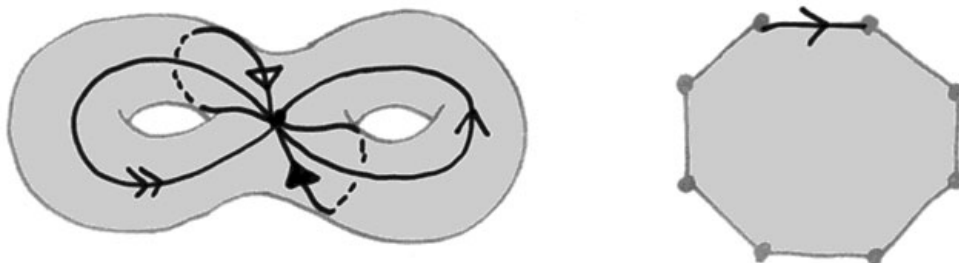**[3]** Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
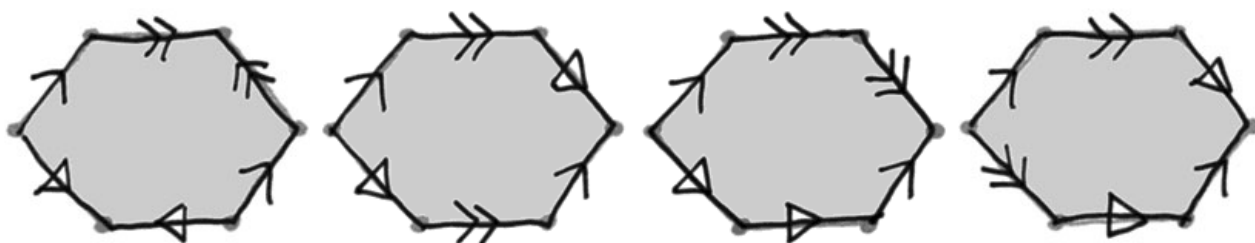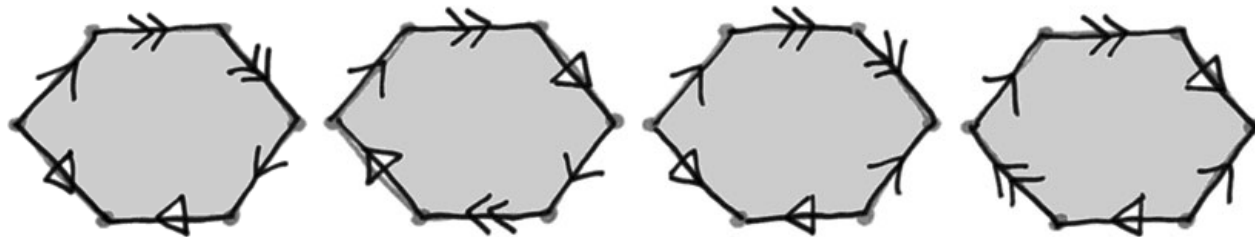
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First Exam DB

Surfaces and Knots, Dave Bayer, February 21, 2002

Name: _____ **School:** _____

[1]	**[2]**	**[3]**	**[4]**	**[5]**	**TOTAL**

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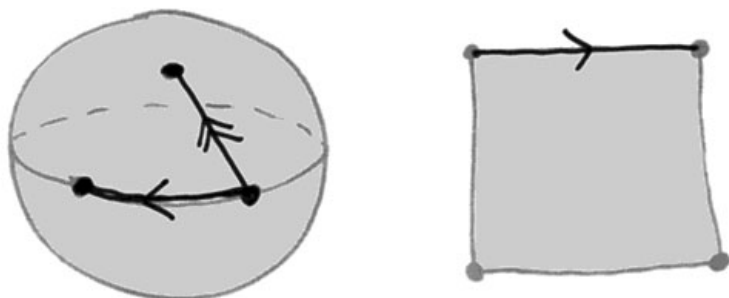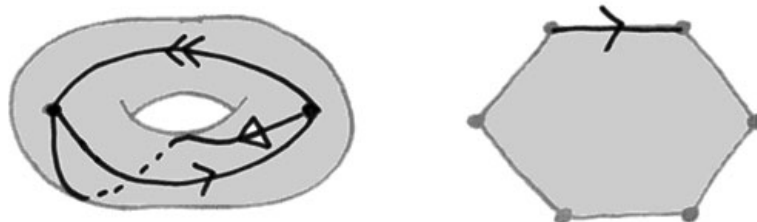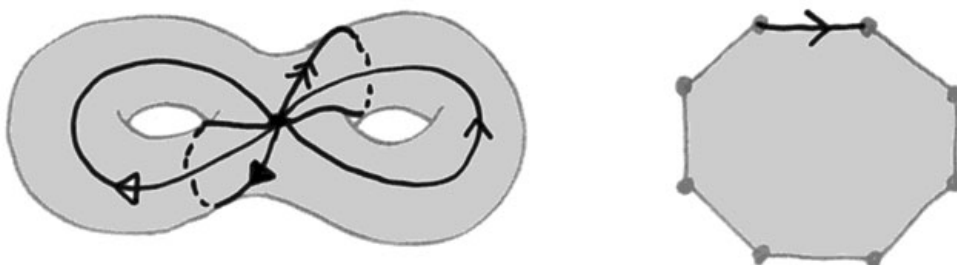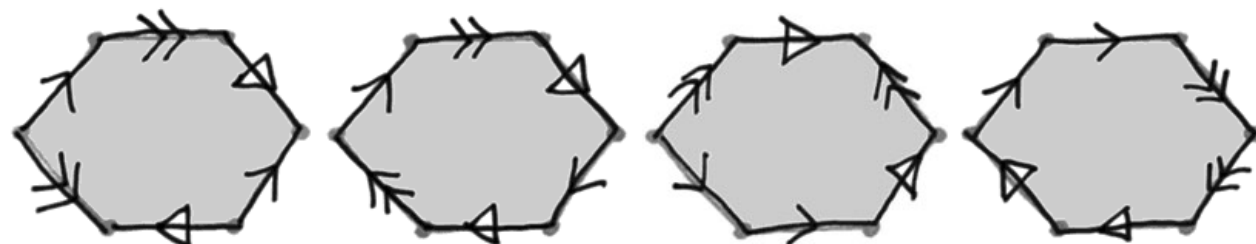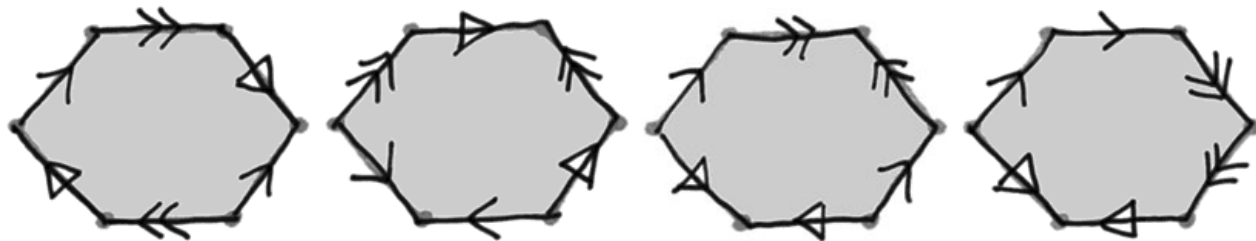
First Exam DC

Surfaces and Knots, Dave Bayer, February 21, 2002

Name: _____ **School:** _____

[1]	[2]	[3]	[4]	[5]	**TOTAL**

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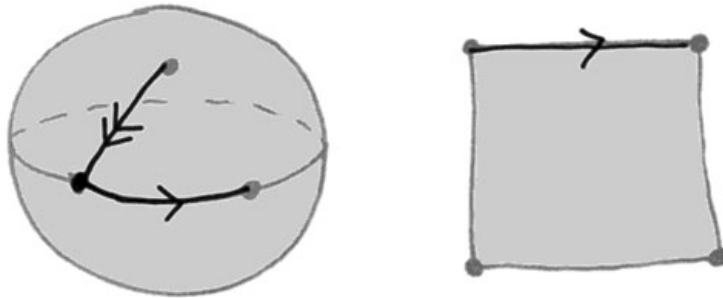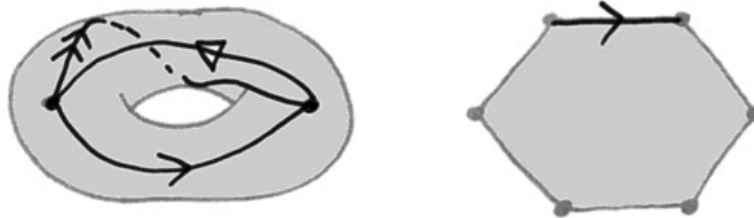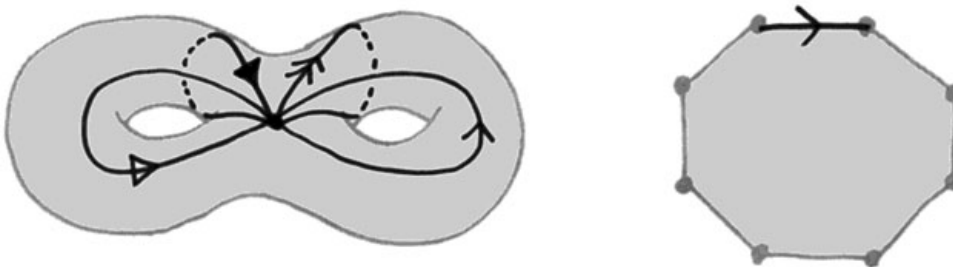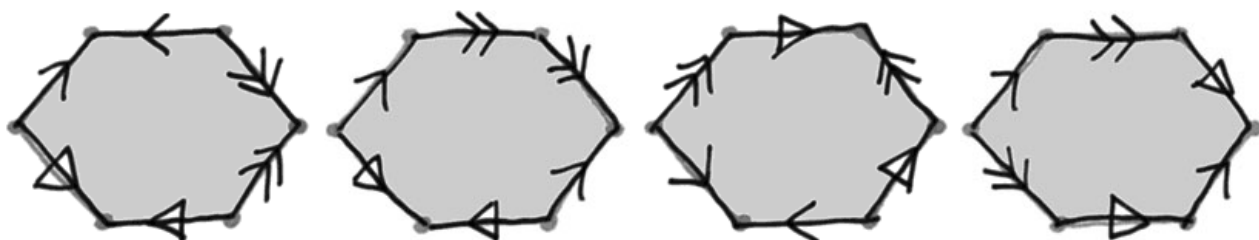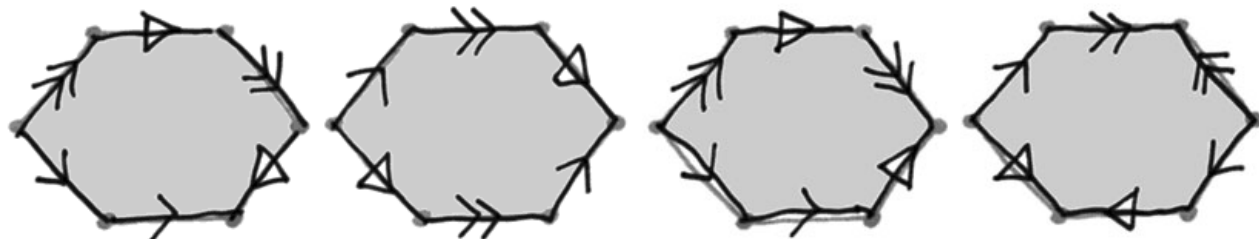
First Exam DD

Surfaces and Knots, Dave Bayer, February 21, 2002

Name: _____   **School:** _____

[1]	[2]	[3]	[4]	[5]	**TOTAL**

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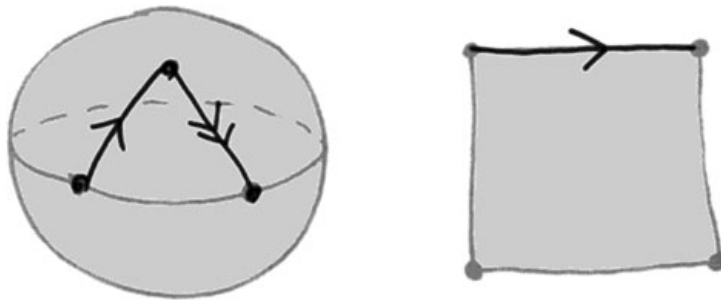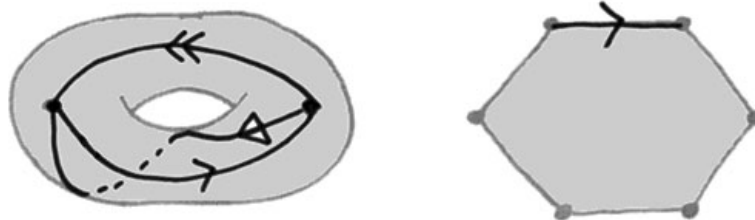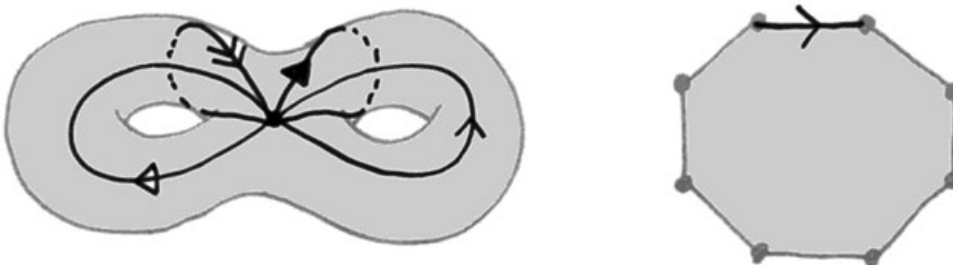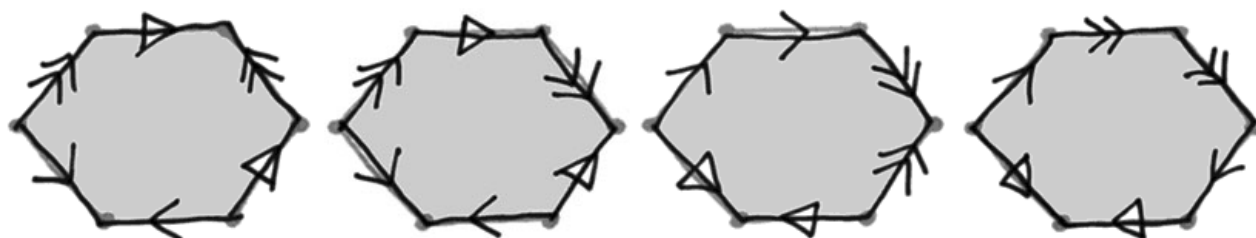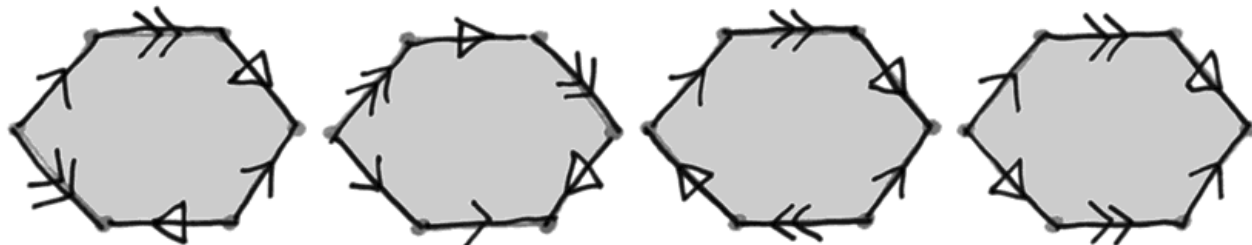
First Exam DE

Surfaces and Knots, Dave Bayer, February 21, 2002

Name: _____ **School:** _____

[1]	[2]	[3]	[4]	[5]	TOTAL

You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.

[1] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.

[2] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.

[3] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.

[**4**] Determine what surface each of the following gluing diagrams represents, by computing its Euler characteristic, and determining whether it is orientable or not.

[**5**] Find a pair of gluing diagrams, above, which represent the same surface. In any set of eight hexagonal gluing diagrams, why must there always be such a pair? Demonstrate that your pair represents the same surface, by modifying the diagrams until they agree.
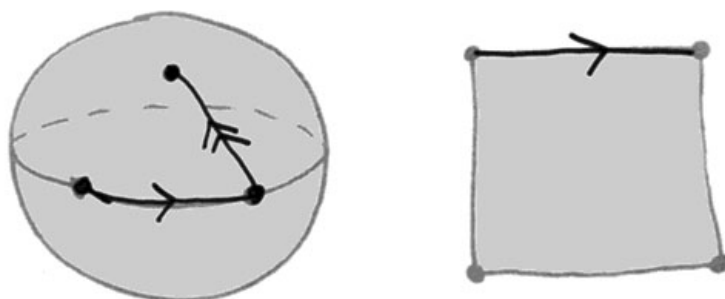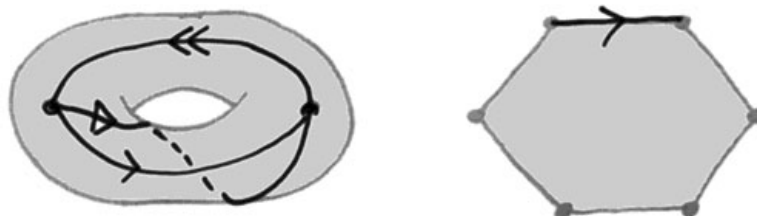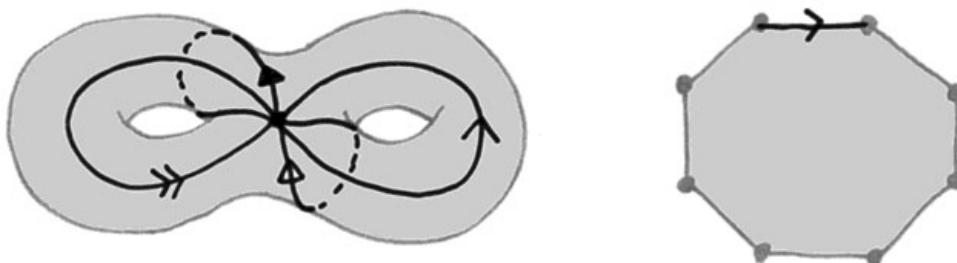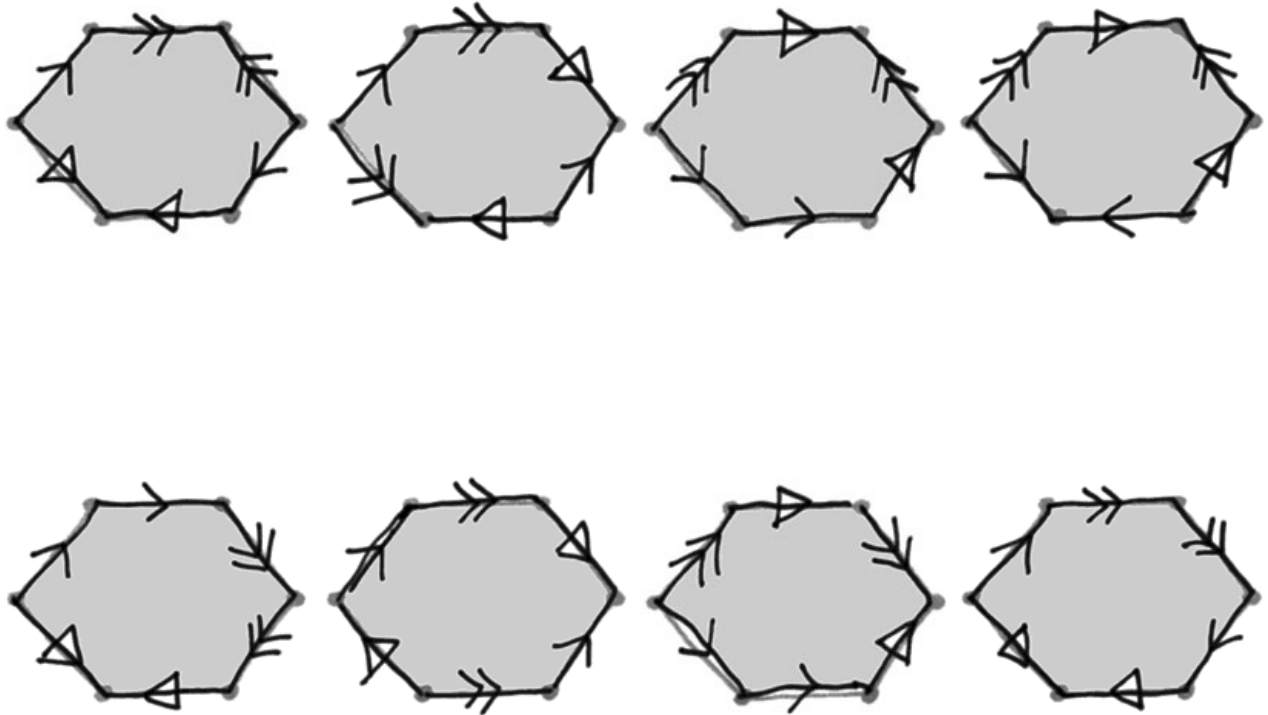
First Exam DF

Surfaces and Knots, Dave Bayer, February 21, 2002

Name: _____   **School:** _____

[1]	[2]	[3]	[4]	[5]	TOTAL

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[1] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.

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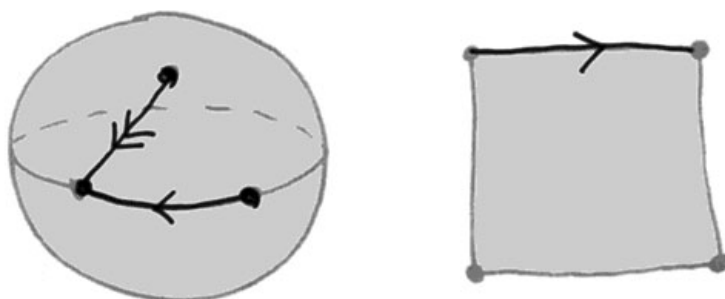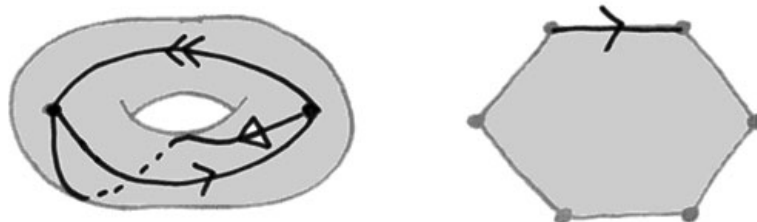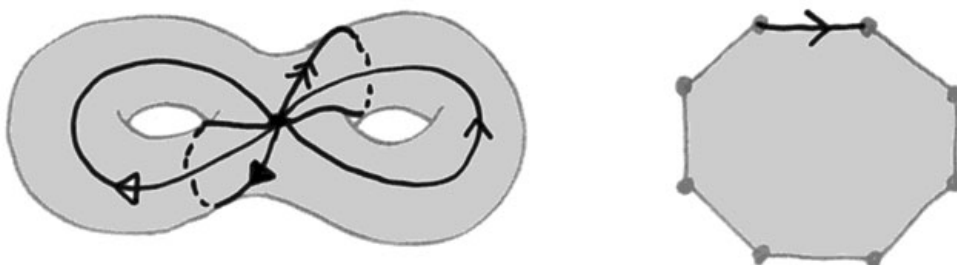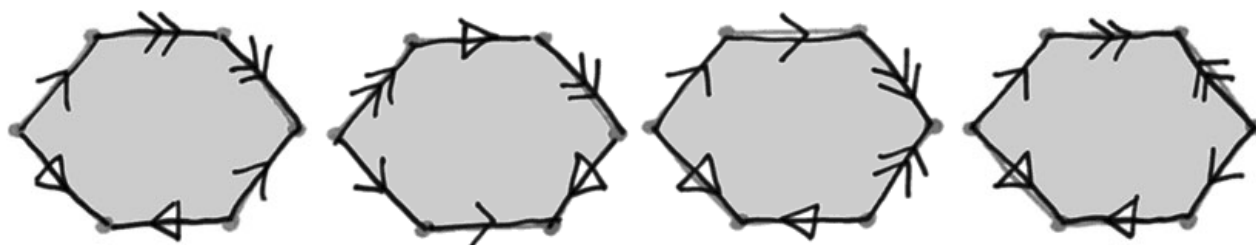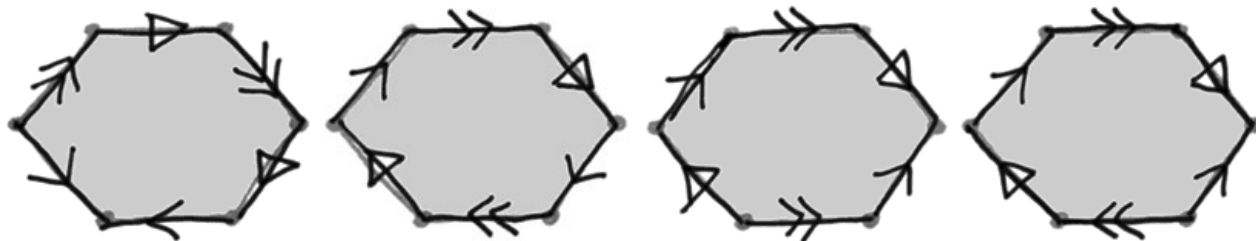
First Exam DG

Surfaces and Knots, Dave Bayer, February 21, 2002

Name: _____   **School:** _____

[1]	**[2]**	**[3]**	**[4]**	**[5]**	**TOTAL**

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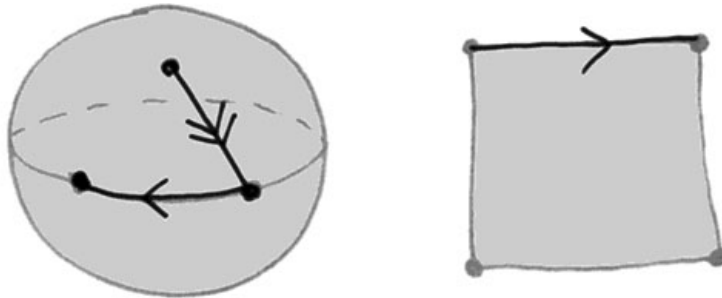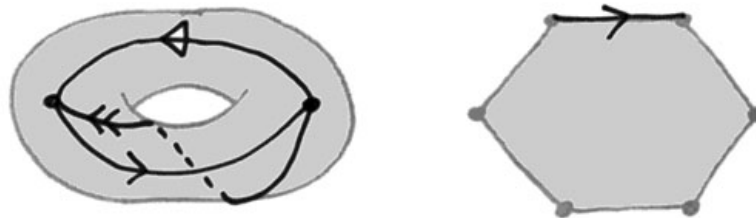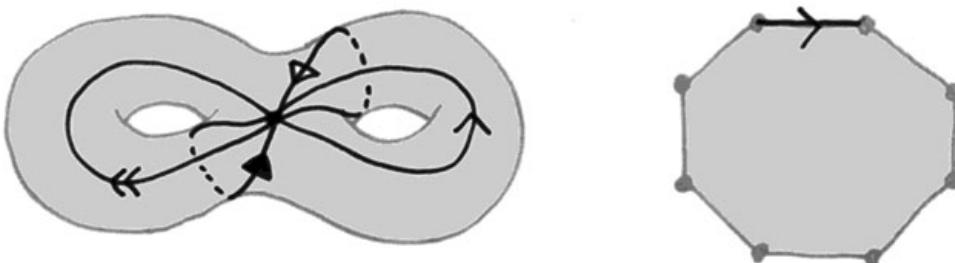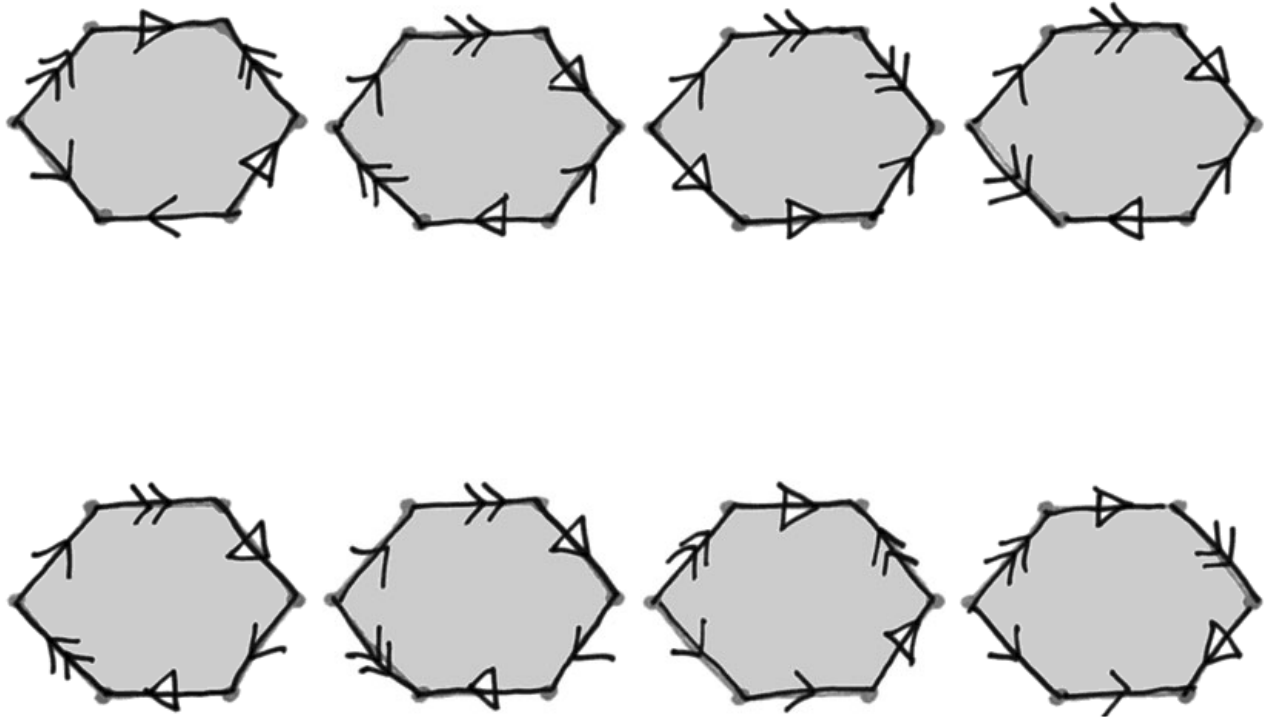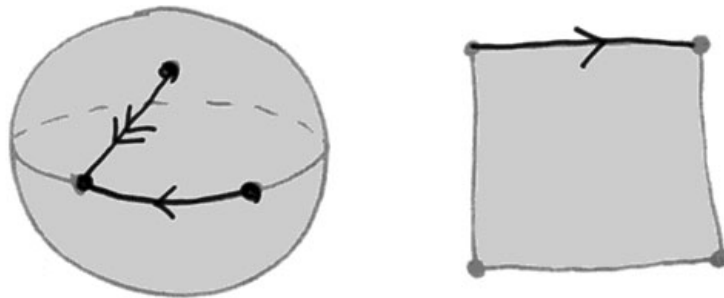
First Exam DH
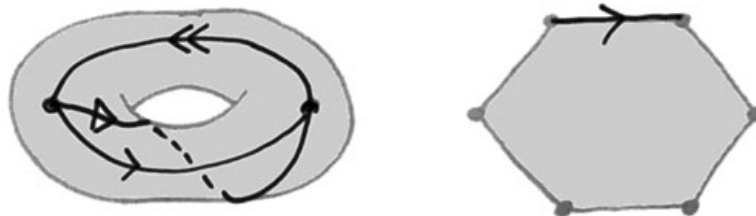
Surfaces and Knots, Dave Bayer, February 21, 2002

Name: ⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯ **School:** ⎯⎯⎯⎯⎯⎯⎯

[1]	[2]	[3]	[4]	[5]	**TOTAL**

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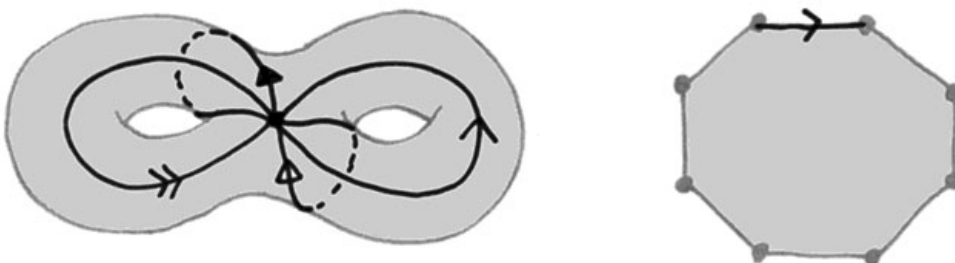

[3] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
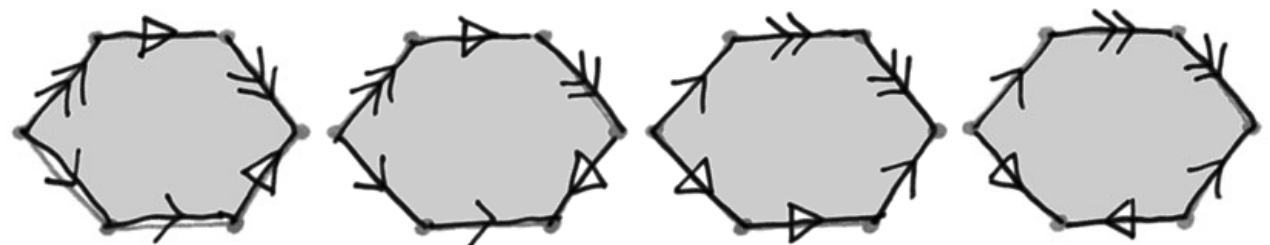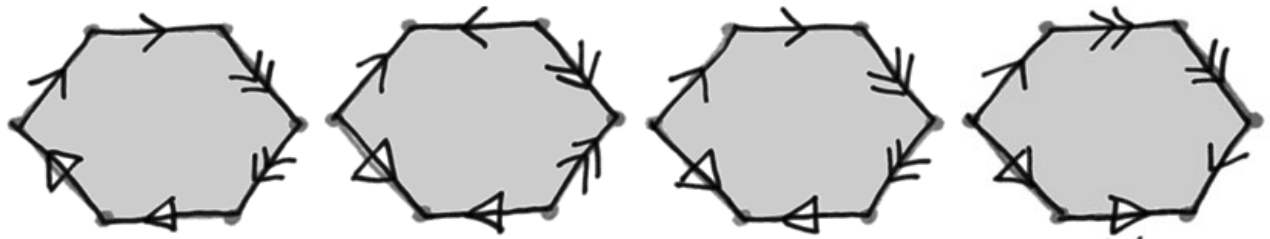
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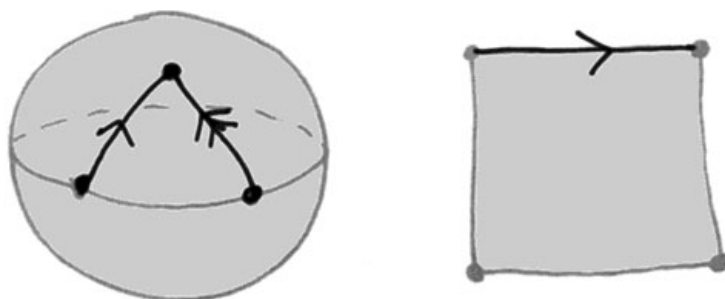
First Exam DI

Surfaces and Knots, Dave Bayer, February 21, 2002
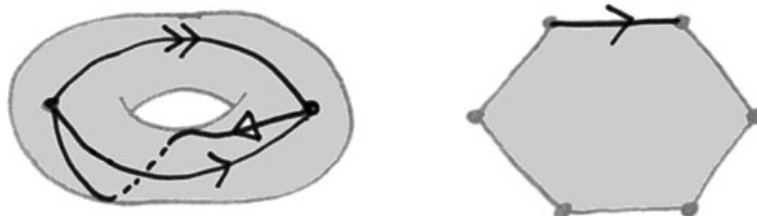
Name: _____ **School:** _____

[1]	**[2]**	**[3]**	**[4]**	**[5]**	**TOTAL**

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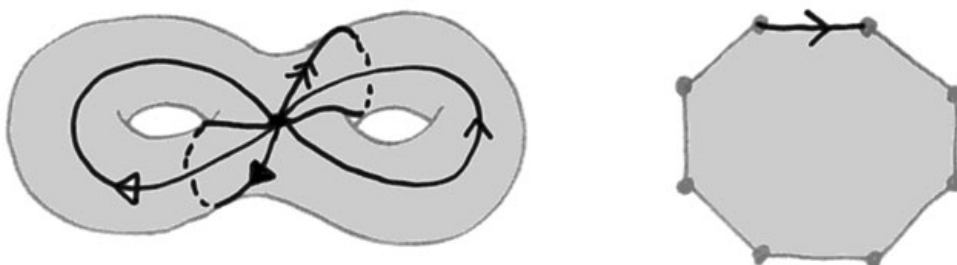

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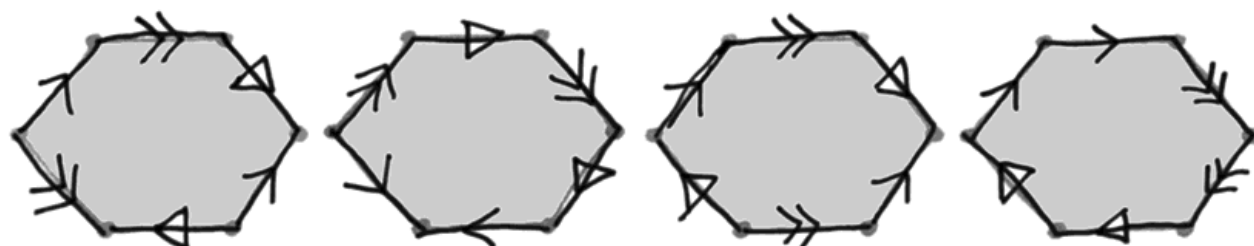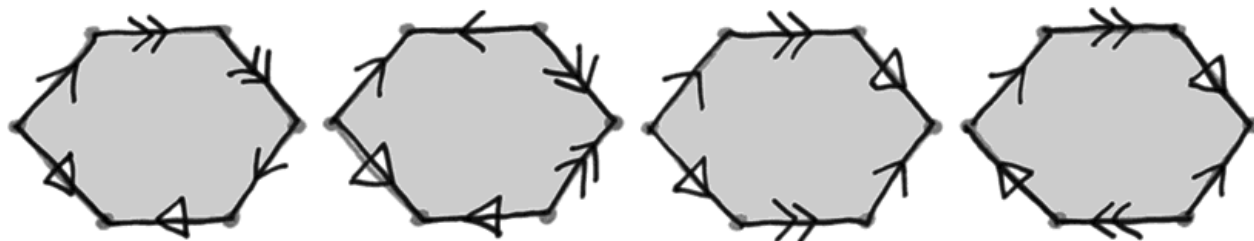
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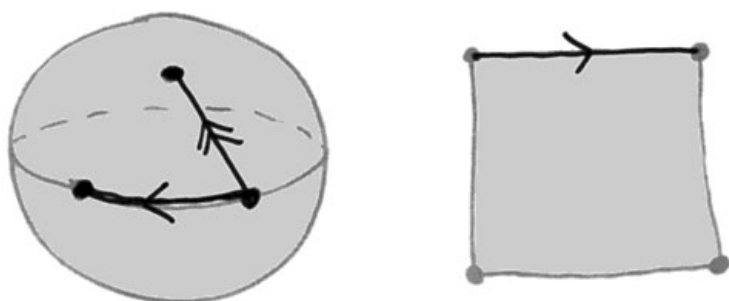
First Exam DJ

Surfaces and Knots, Dave Bayer, February 21, 2002
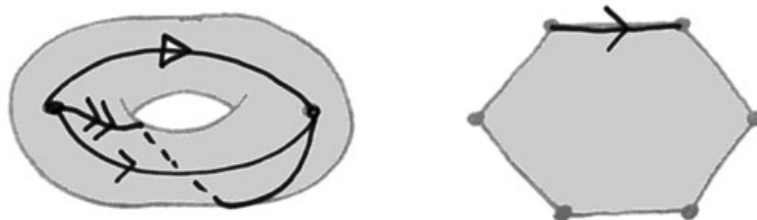
Name: _____ **School:** _____

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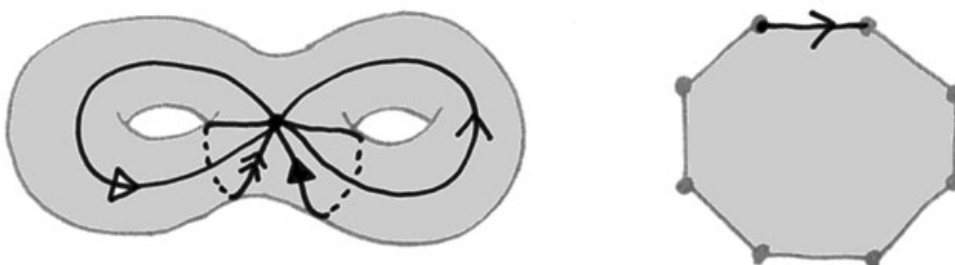

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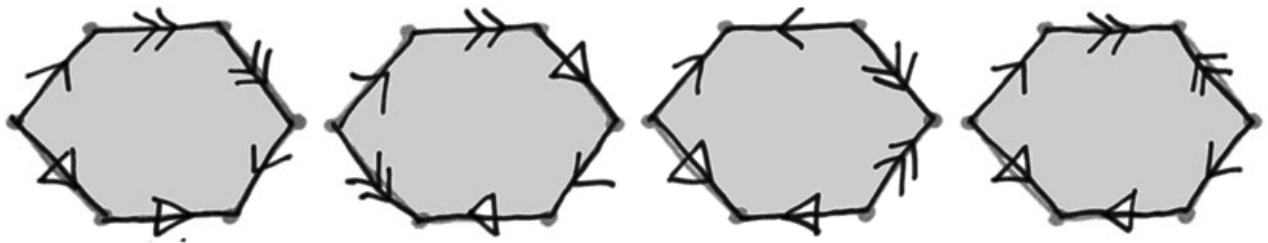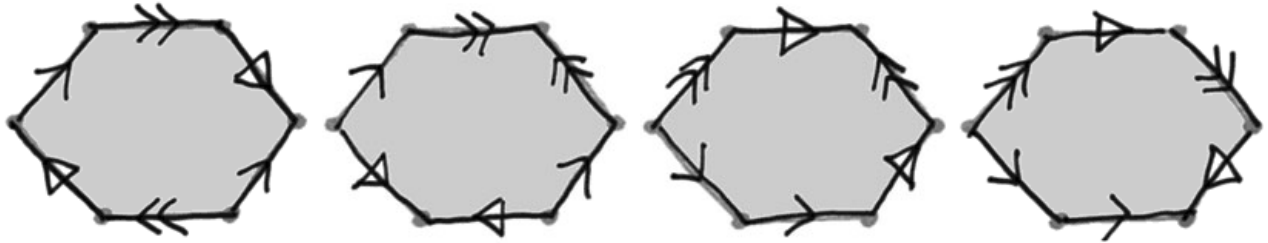
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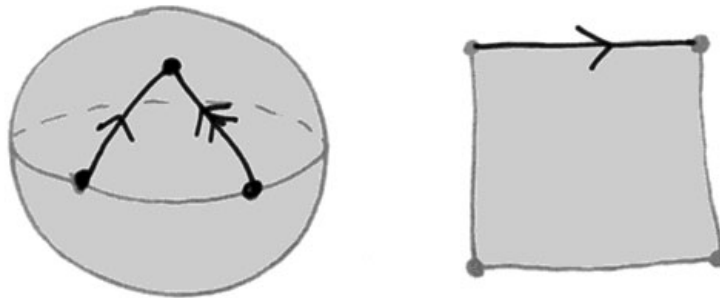
First Exam DK

Surfaces and Knots, Dave Bayer, February 21, 2002
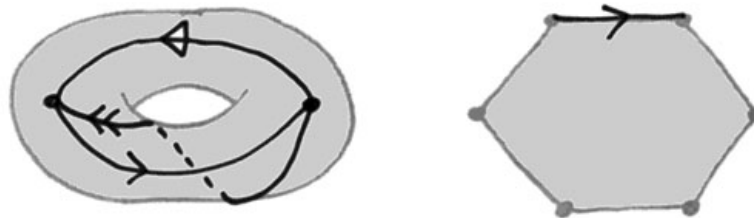
Name: _____ **School:** _____

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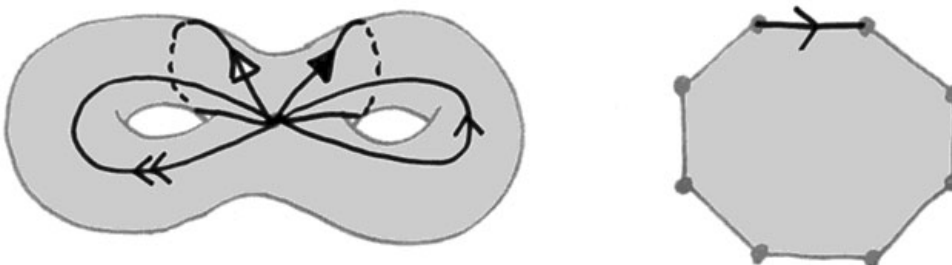

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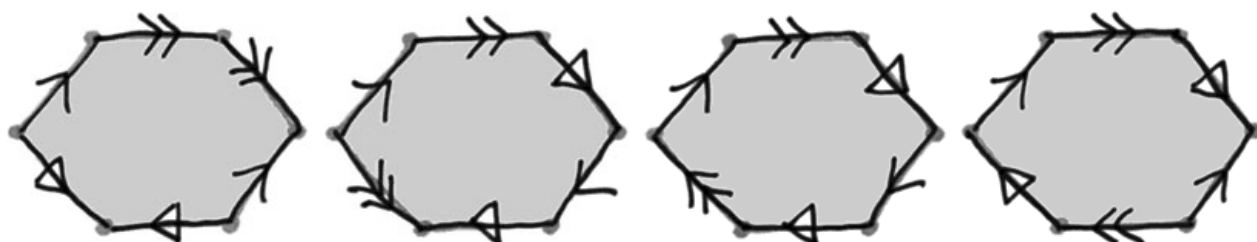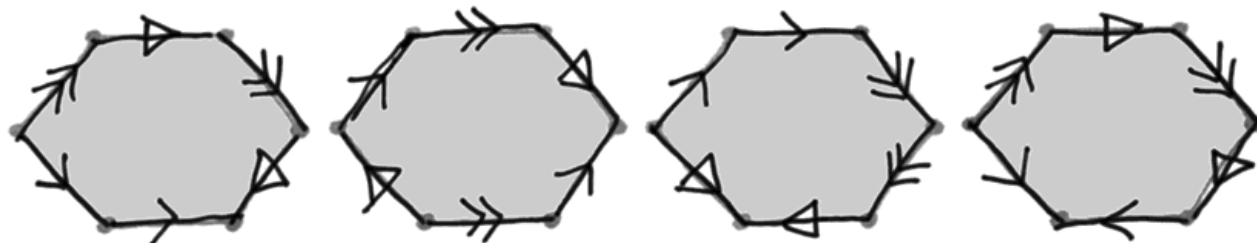
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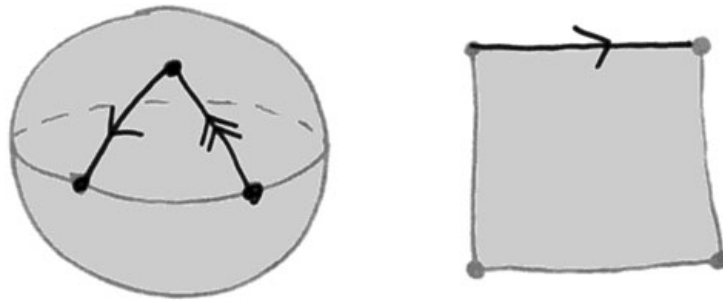
First Exam DL

Surfaces and Knots, Dave Bayer, February 21, 2002
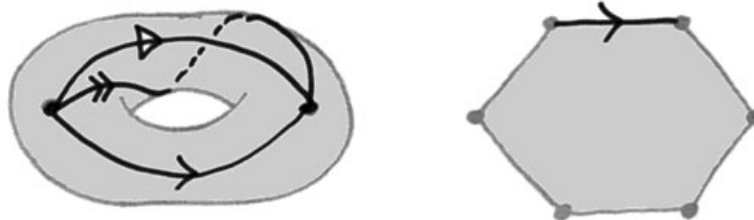
Name: _____ **School:** _____

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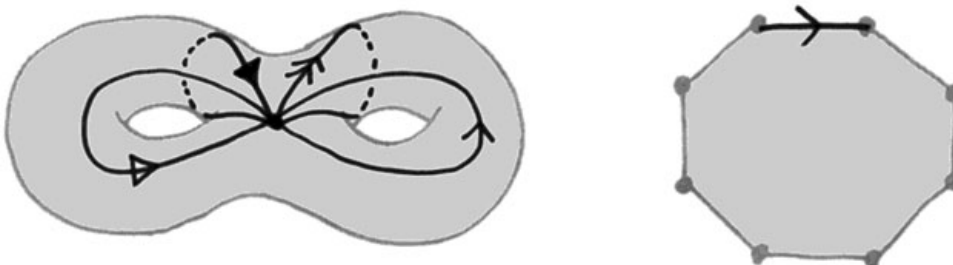

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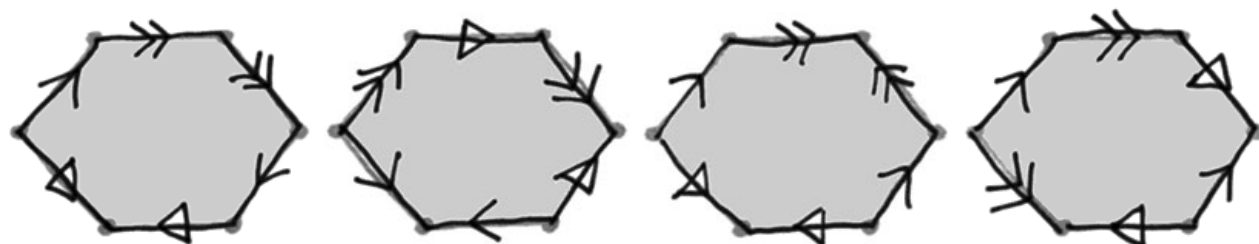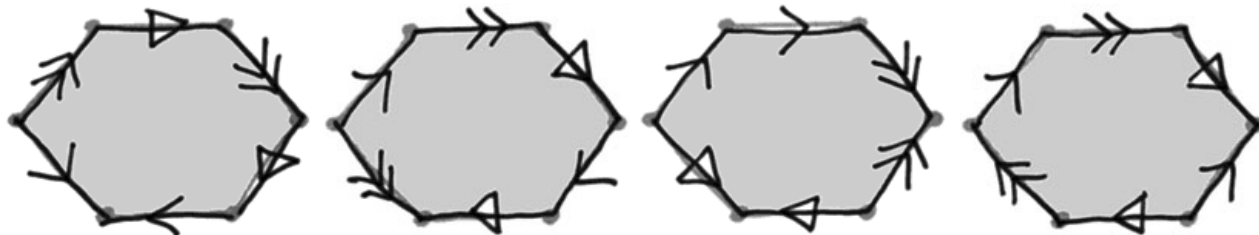
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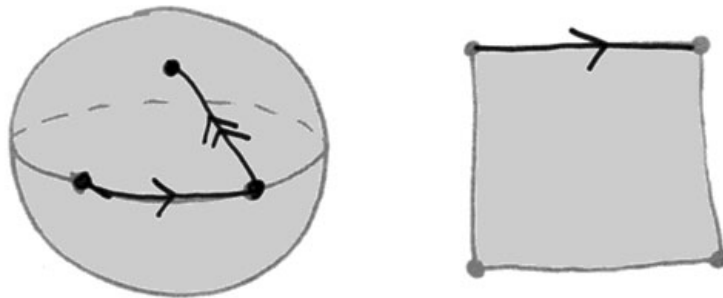
First Exam DM

Surfaces and Knots, Dave Bayer, February 21, 2002
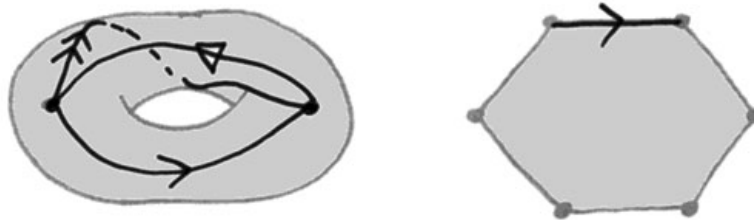
Name: _____ **School:** _____

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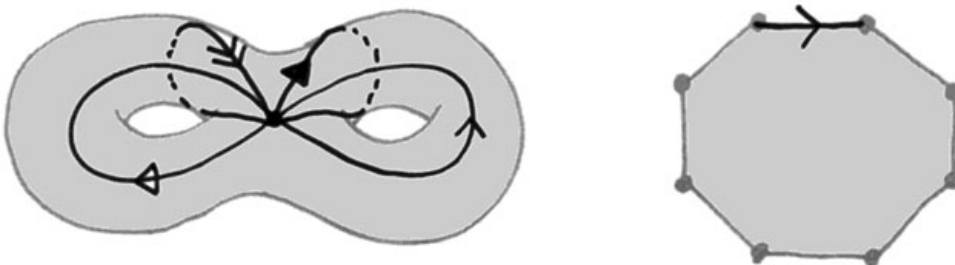

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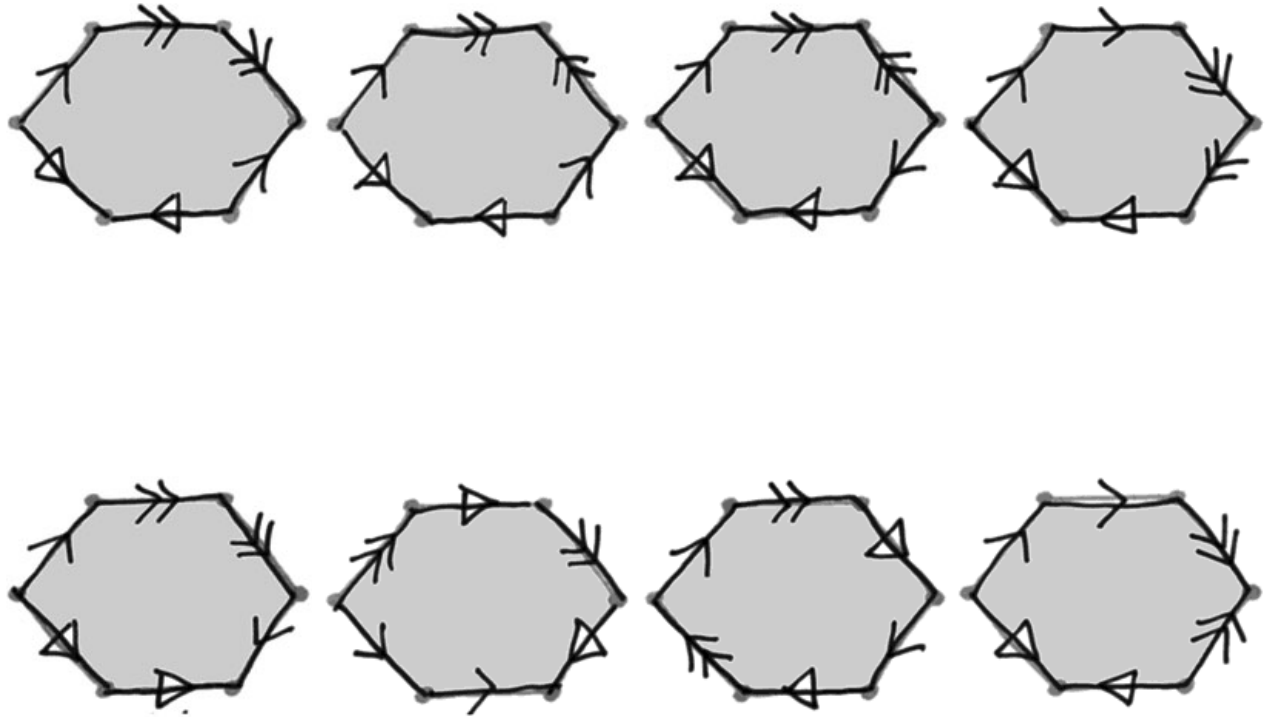
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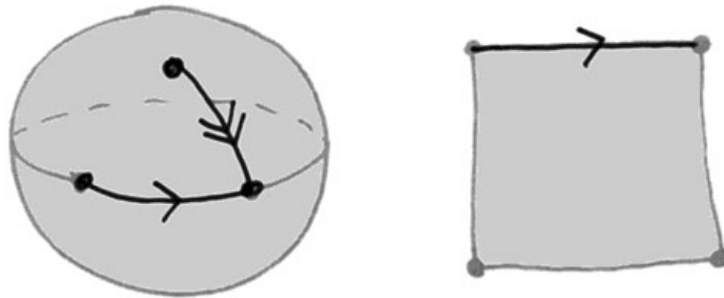
First Exam DN
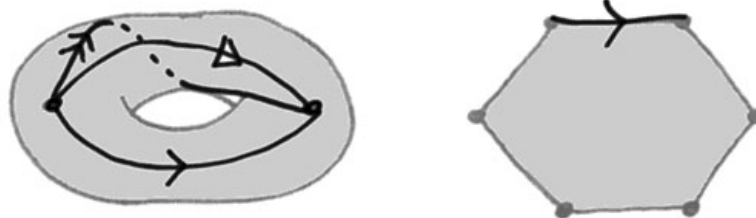
Surfaces and Knots, Dave Bayer, February 21, 2002

Name: ⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯ **School:** ⎯⎯⎯⎯⎯⎯

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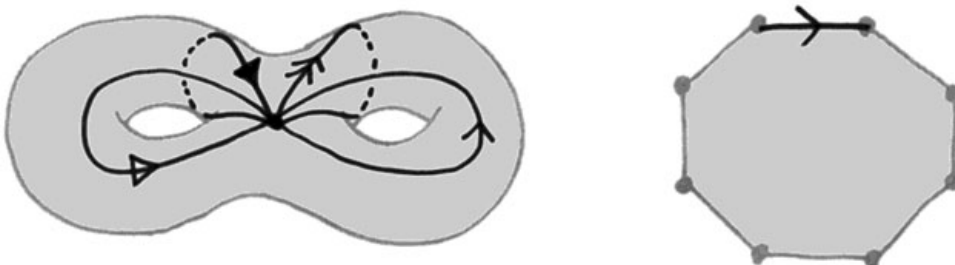

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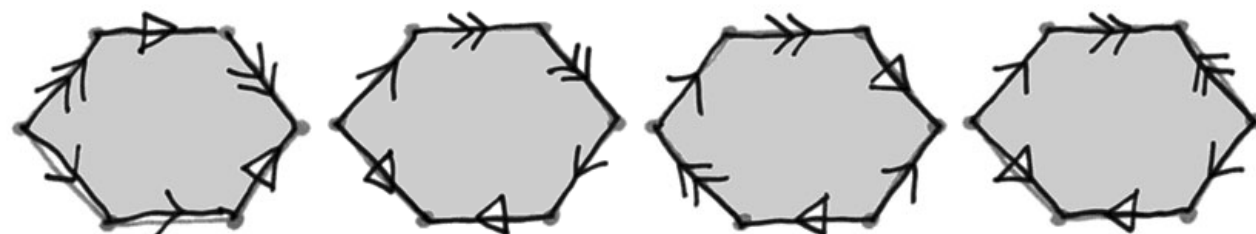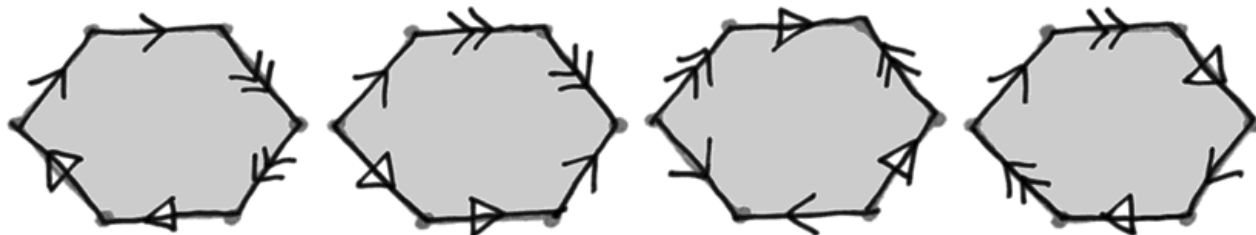
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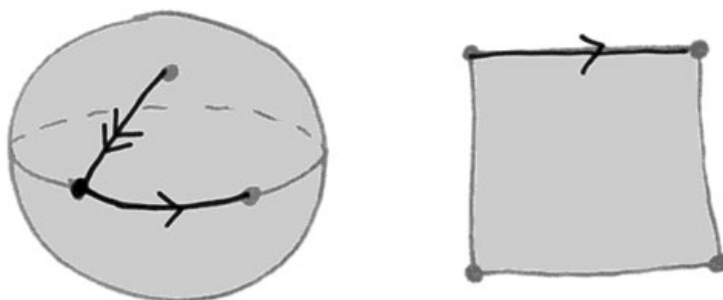
First Exam EA

Surfaces and Knots, Dave Bayer, February 21, 2002
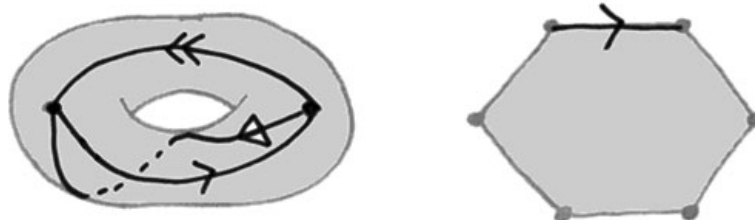
Name: _____ **School:** _____

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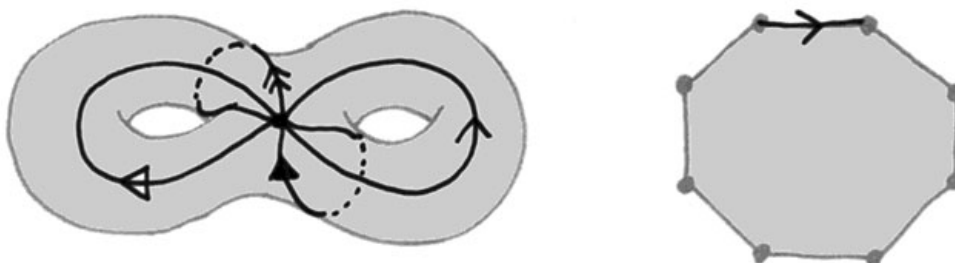
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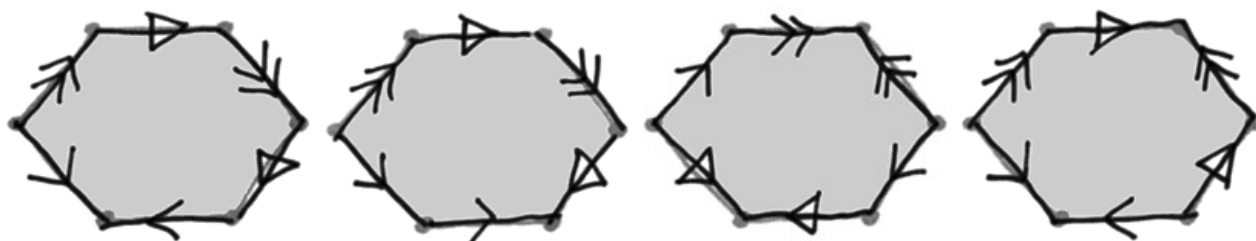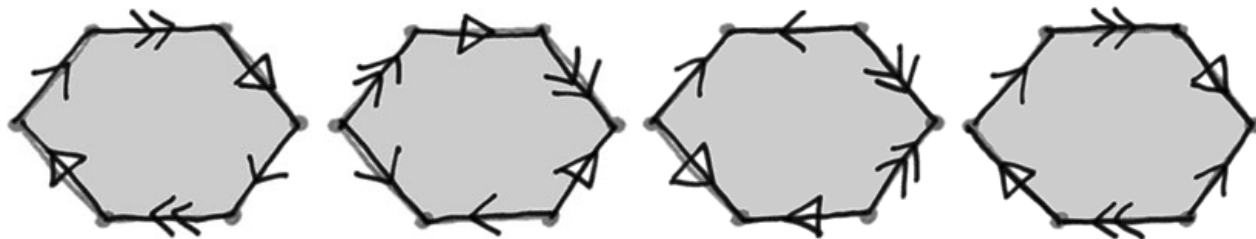
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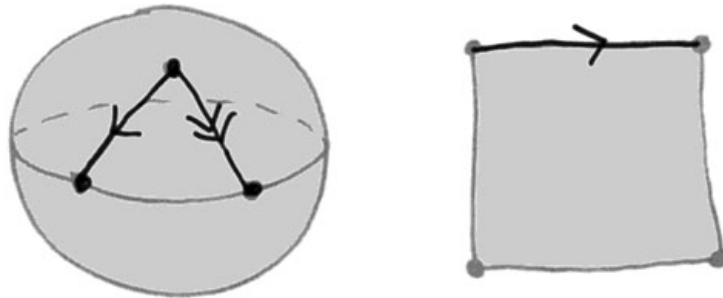
First Exam EB

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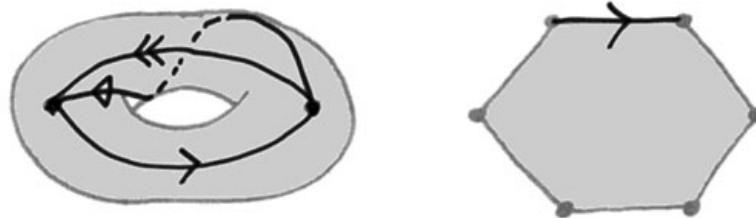
Name: _____   **School:** _____

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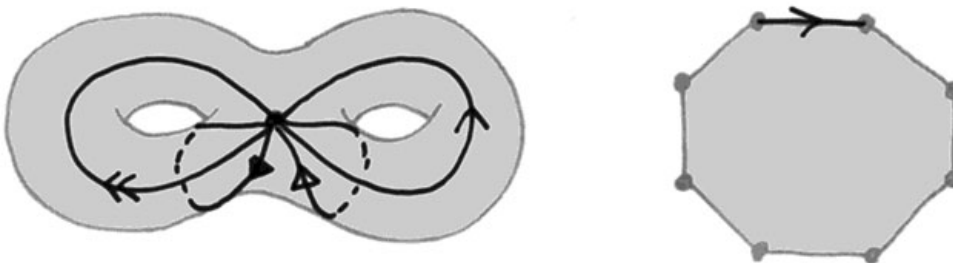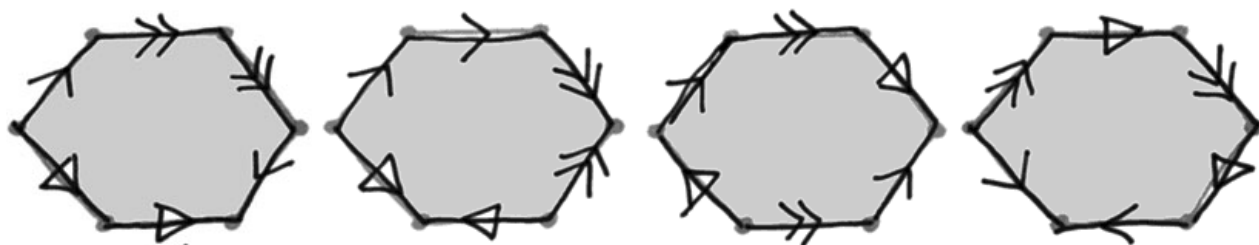

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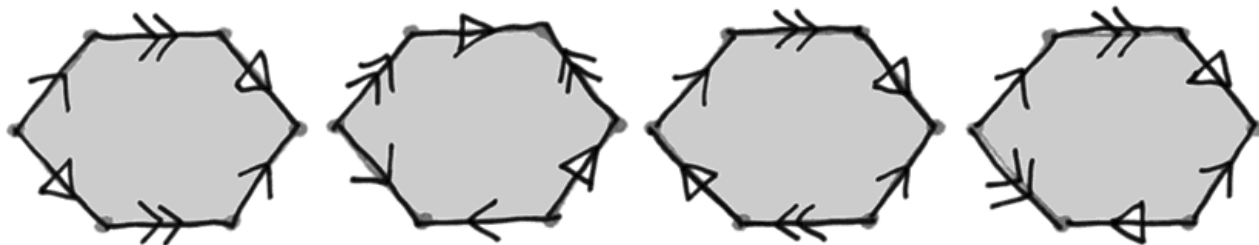
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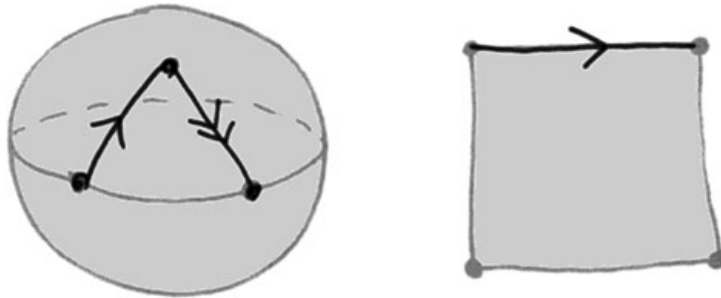
First Exam EC
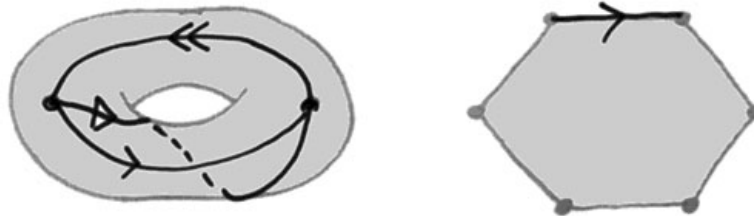
Surfaces and Knots, Dave Bayer, February 21, 2002

Name: ⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯ **School:** ⎯⎯⎯⎯⎯⎯⎯⎯⎯

[1]	**[2]**	**[3]**	**[4]**	**[5]**	**TOTAL**

You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.

[1] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
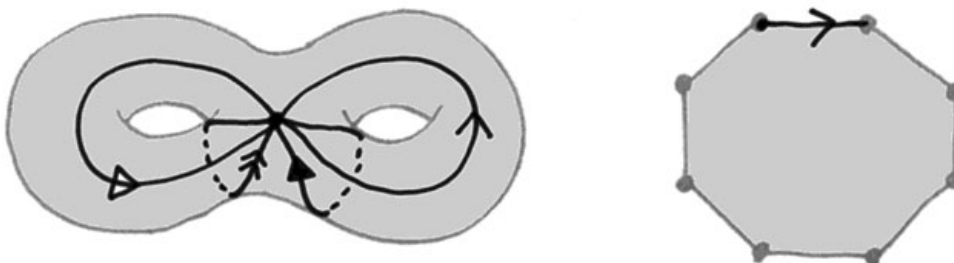

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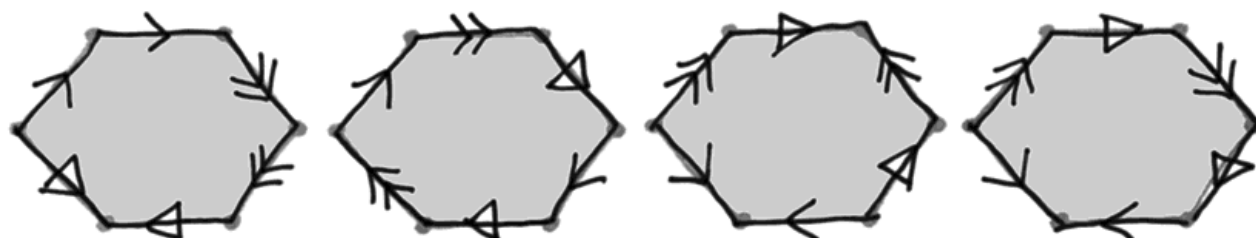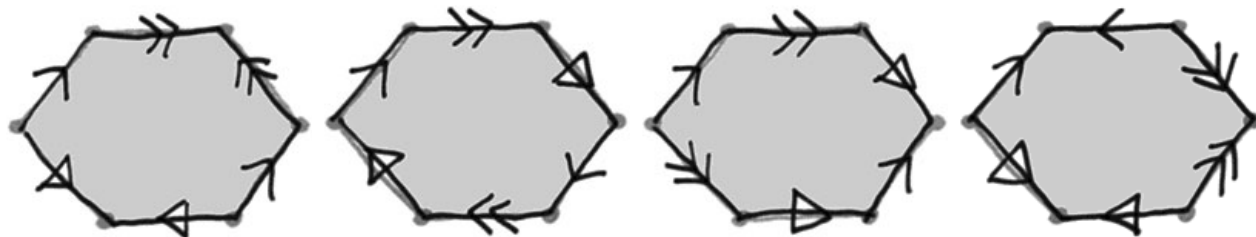
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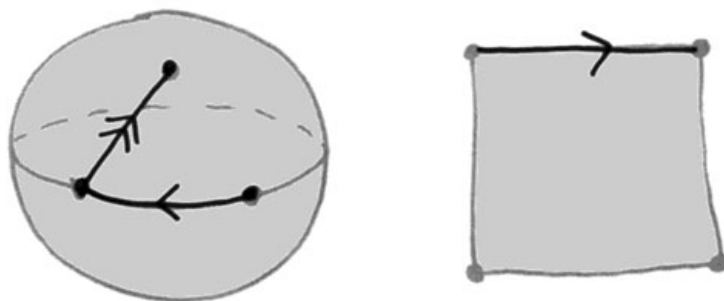
First Exam ED

Surfaces and Knots, Dave Bayer, February 21, 2002

Name: ⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯ **School:** ⎯⎯⎯⎯⎯⎯⎯⎯

[1]	[2]	[3]	[4]	[5]	TOTAL

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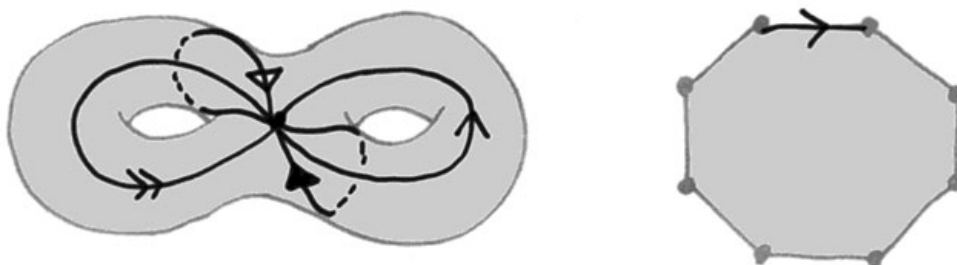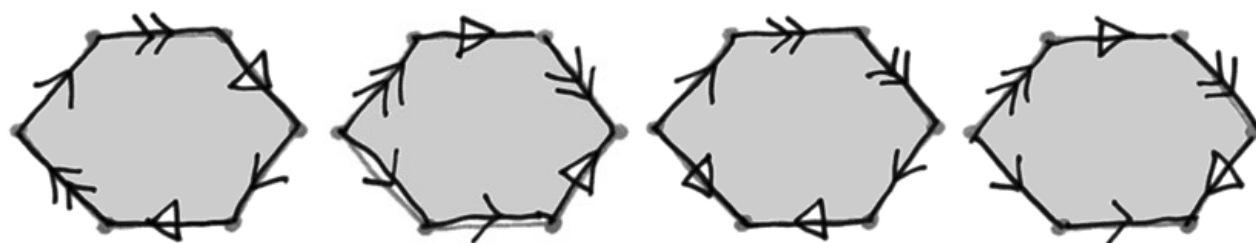

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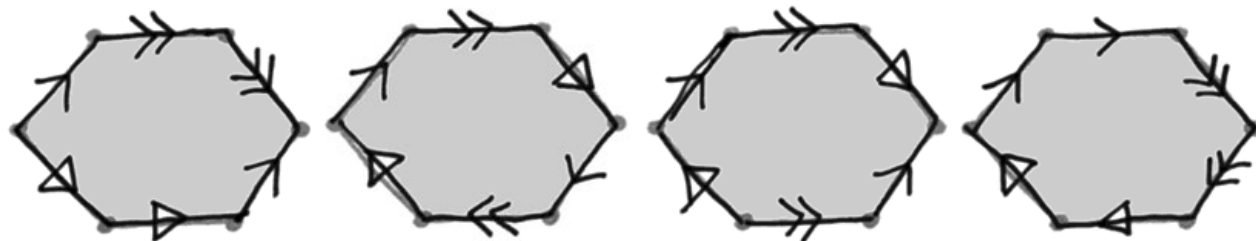
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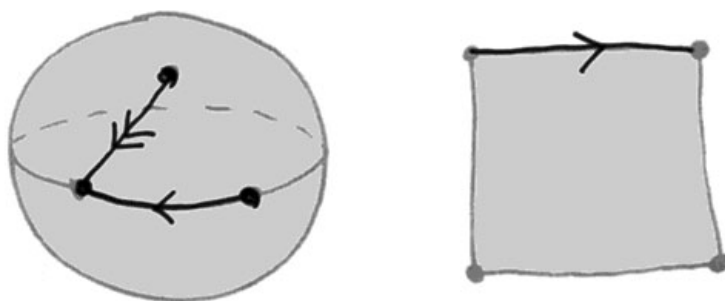
First Exam EE
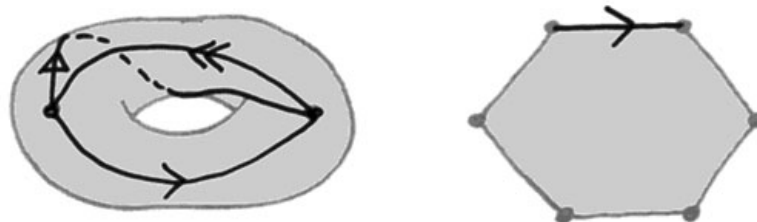
Surfaces and Knots, Dave Bayer, February 21, 2002

Name: ———————————————— **School:** ————

[1]	[2]	[3]	[4]	[5]	**TOTAL**

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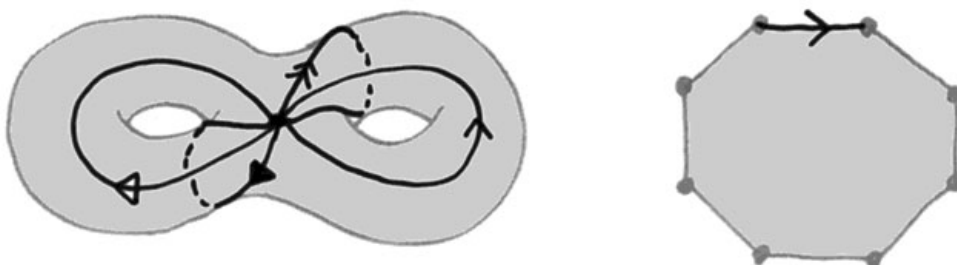
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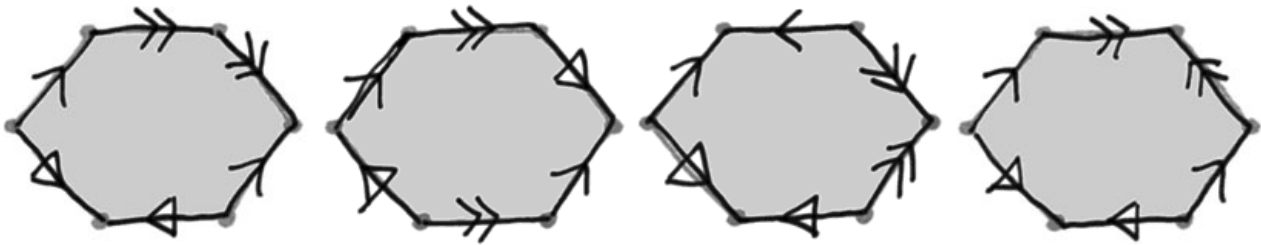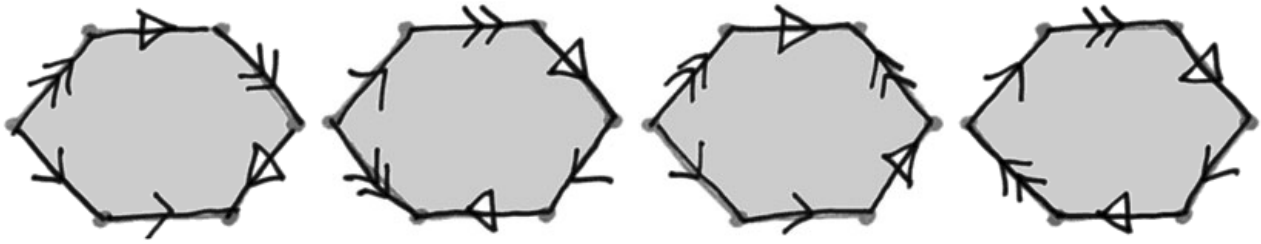
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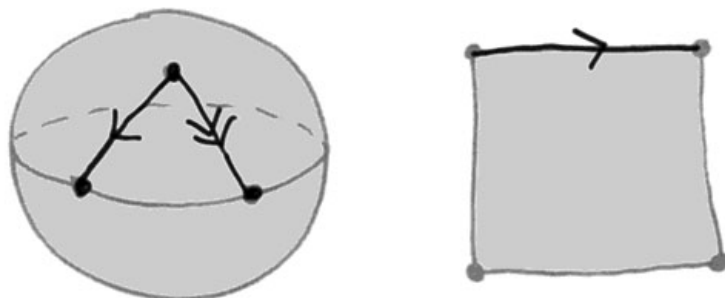
First Exam EF

Surfaces and Knots, Dave Bayer, February 21, 2002
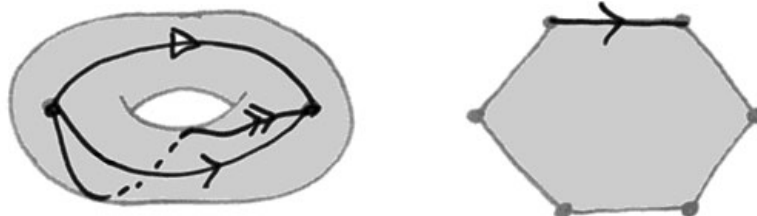
Name: _____ **School:** _____

[1]	[2]	[3]	[4]	[5]	TOTAL

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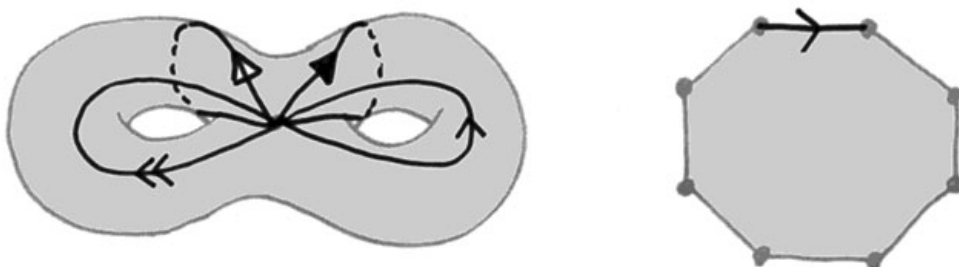
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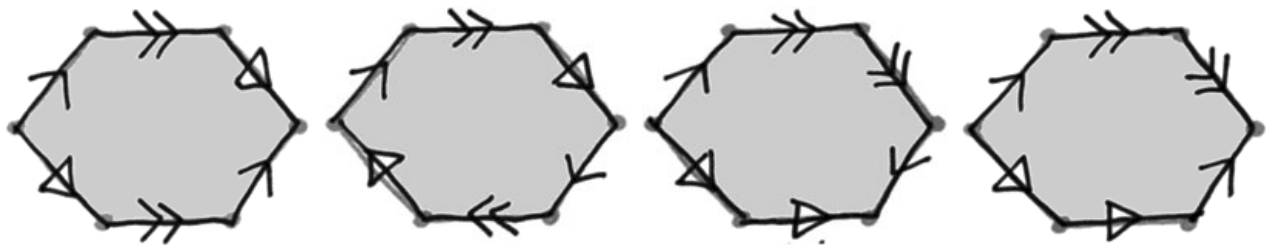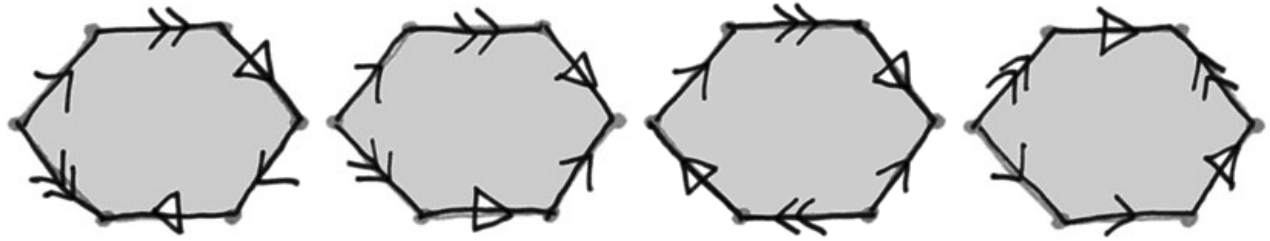
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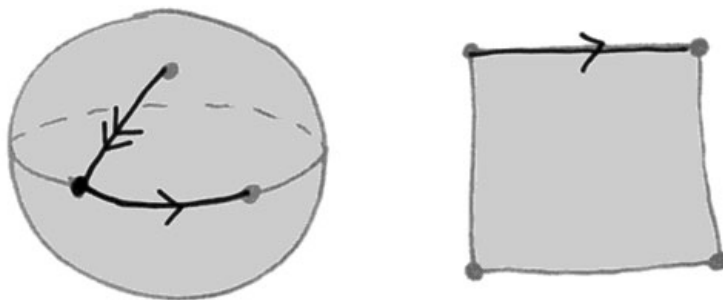
First Exam EG

Surfaces and Knots, Dave Bayer, February 21, 2002
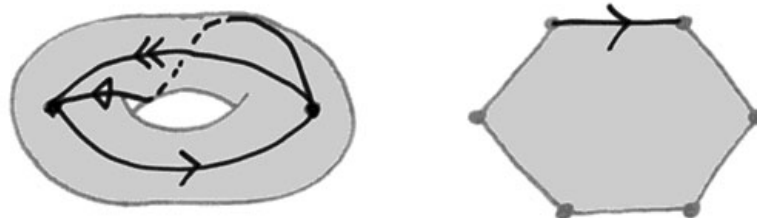
Name: _____   **School:** _____

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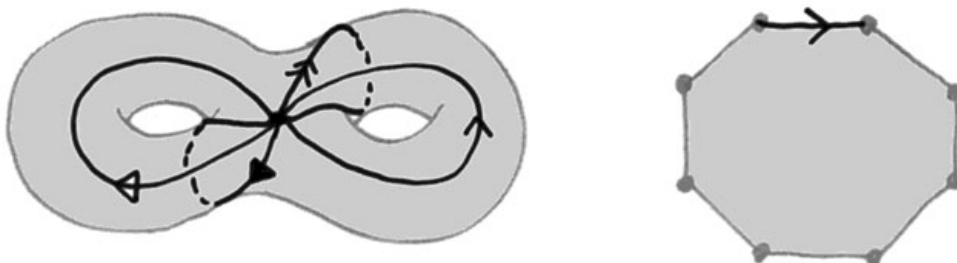

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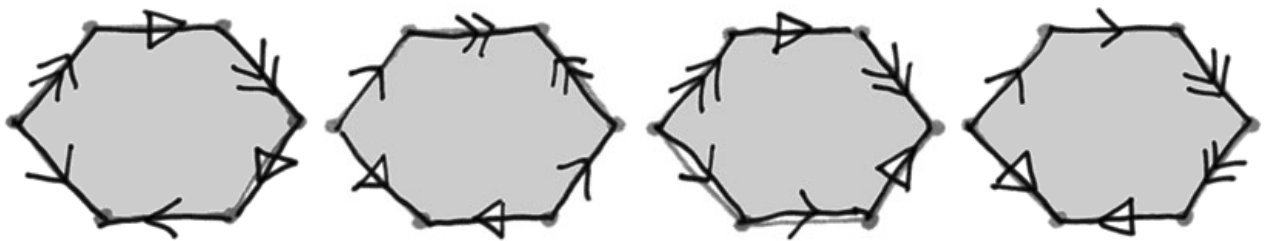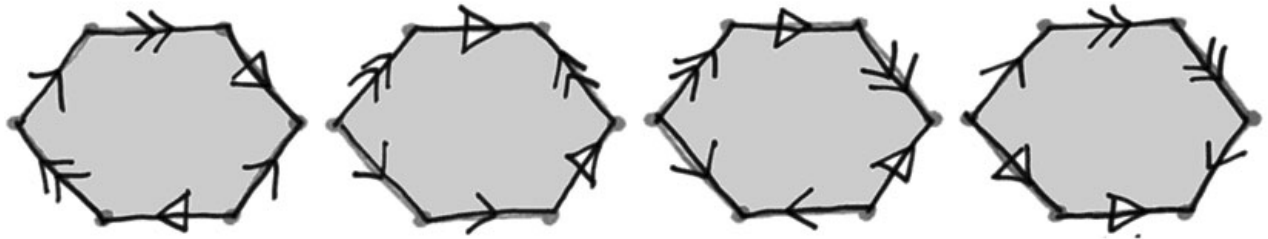
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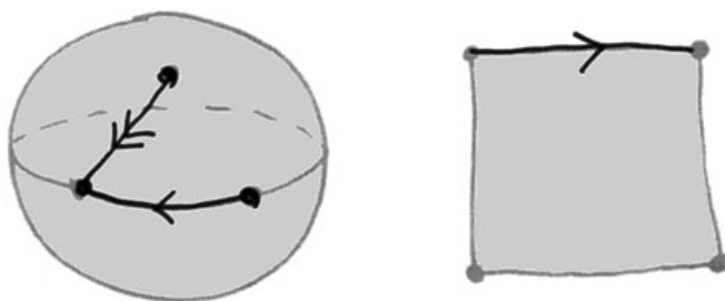
First Exam EH

Surfaces and Knots, Dave Bayer, February 21, 2002
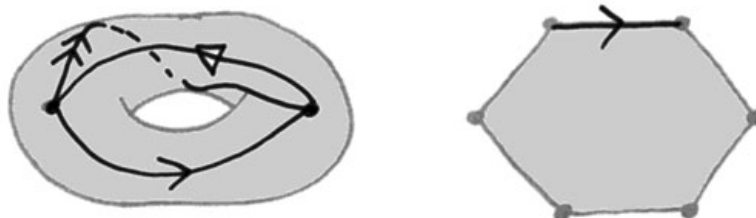
Name: _____ **School:** _____

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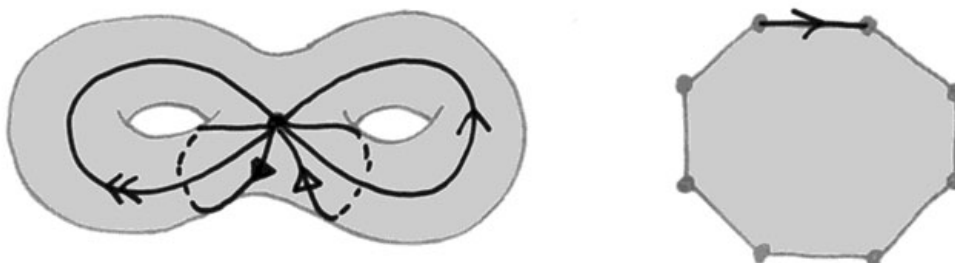
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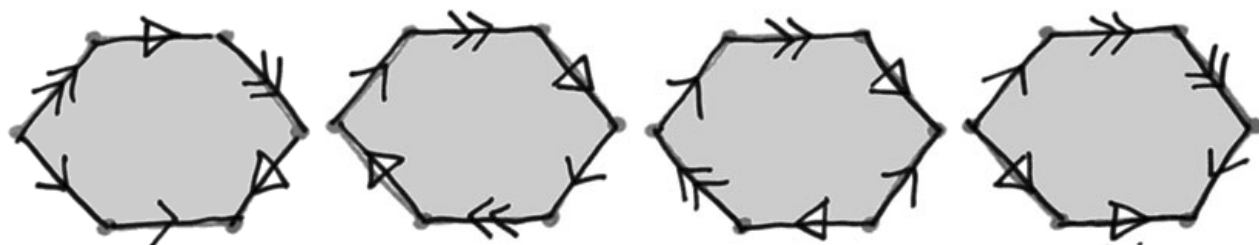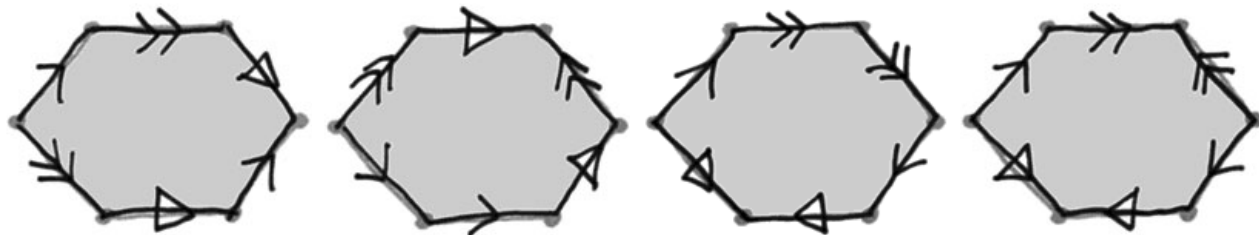
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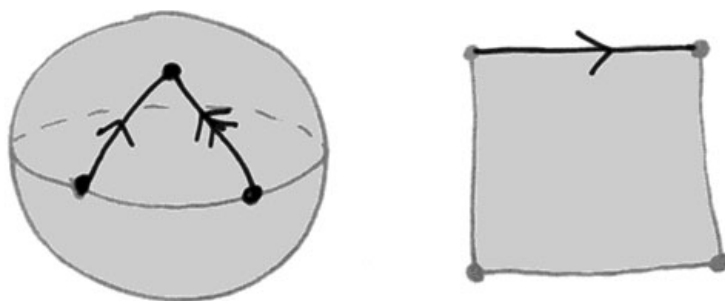
First Exam EI

Surfaces and Knots, Dave Bayer, February 21, 2002
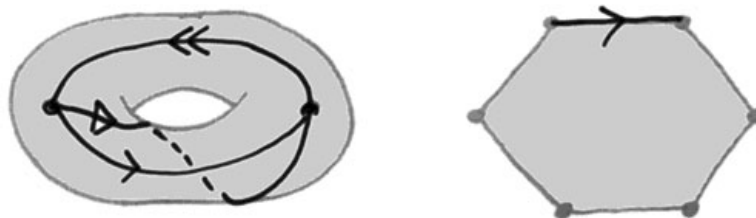
Name: _____ **School:** _____

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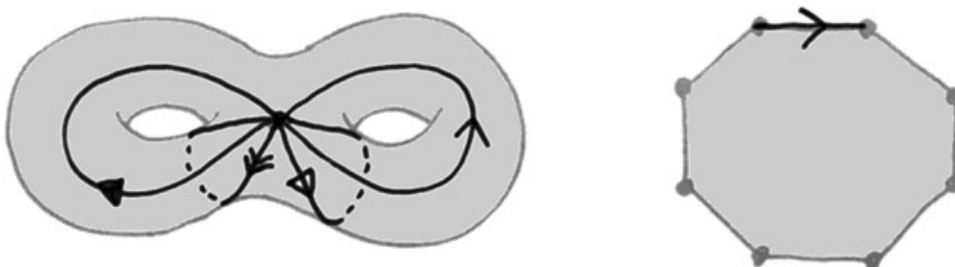
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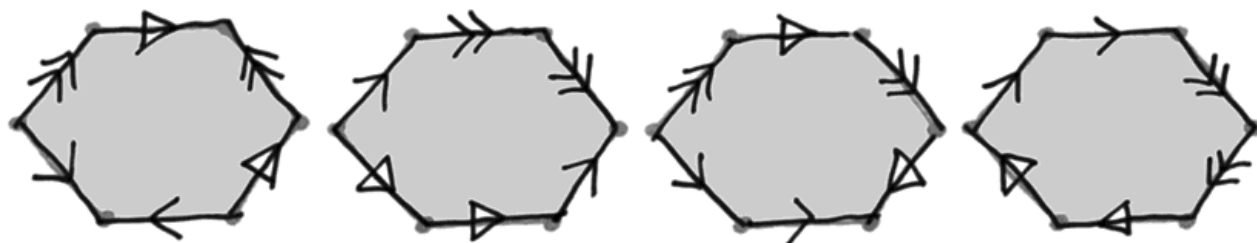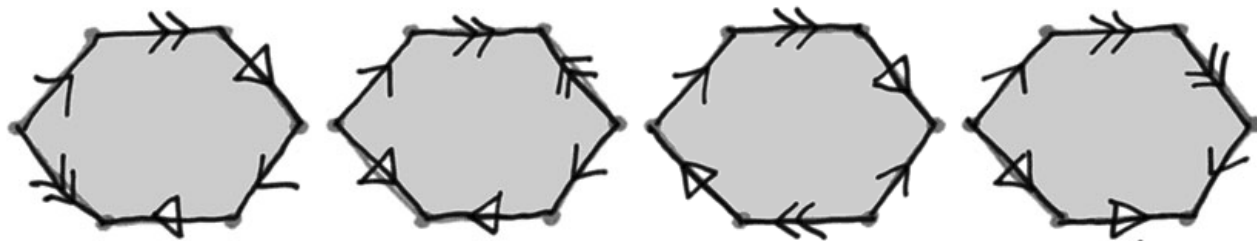
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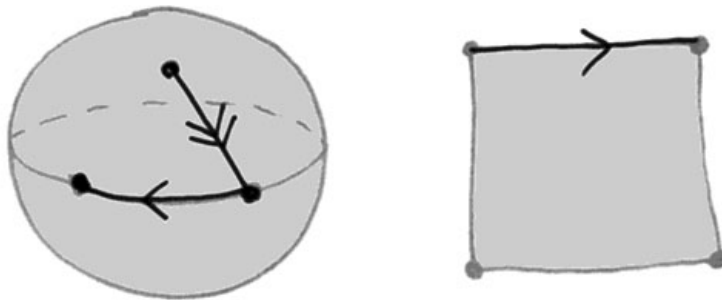
First Exam EJ

Surfaces and Knots, Dave Bayer, February 21, 2002
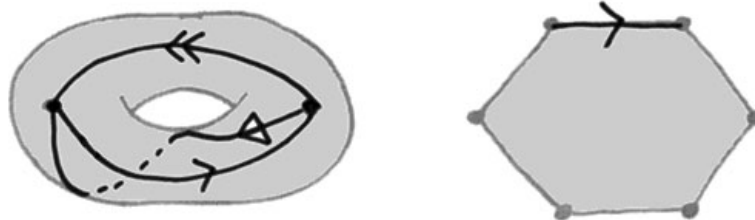
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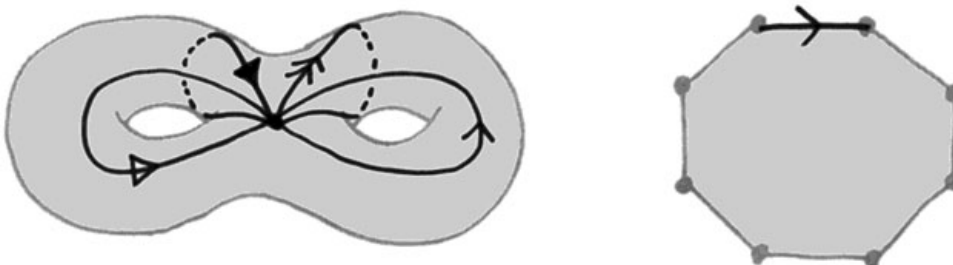

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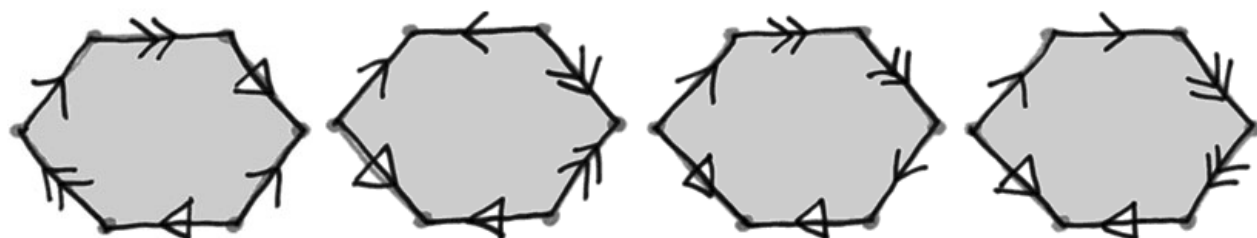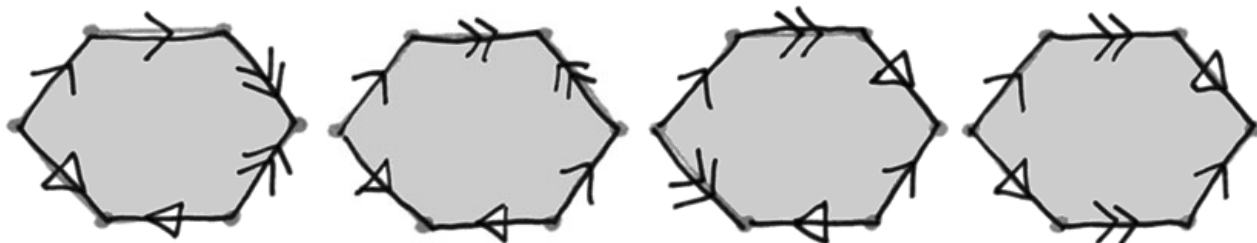
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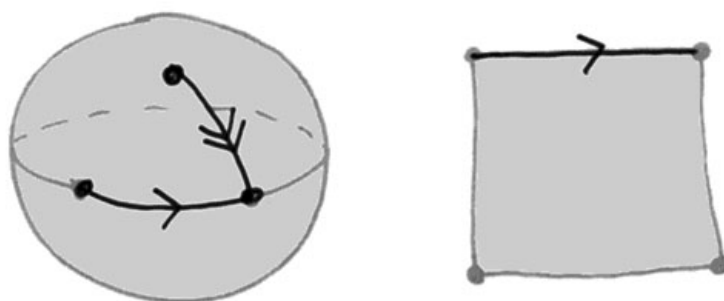
First Exam EK

Surfaces and Knots, Dave Bayer, February 21, 2002

Name: _____ **School:** _____

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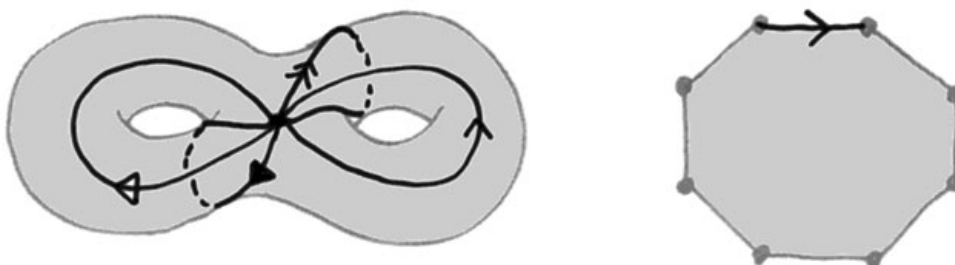

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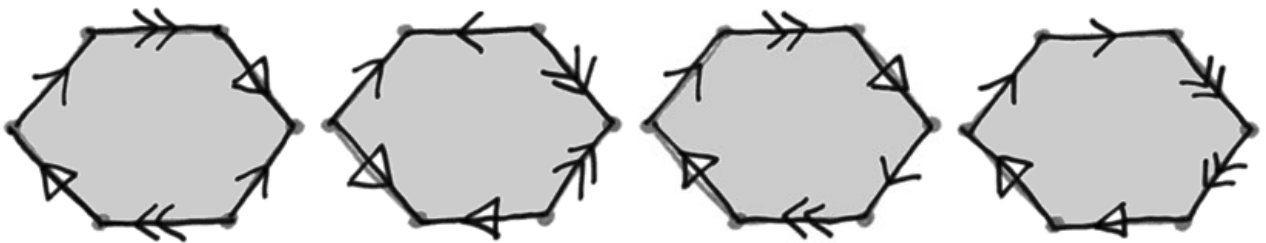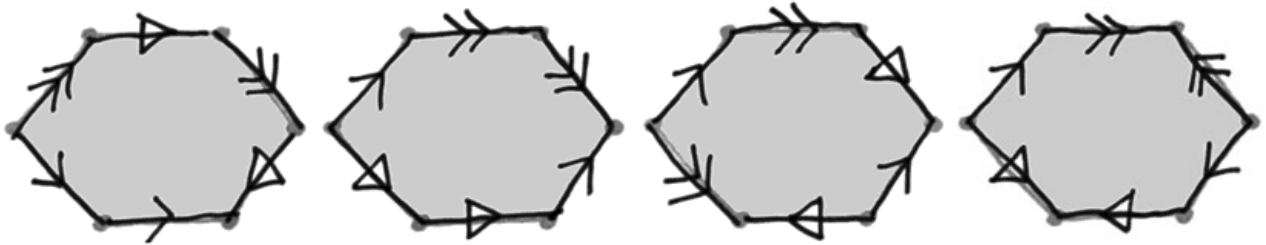
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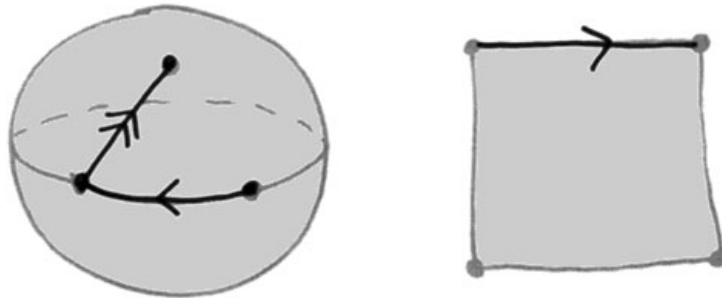
First Exam EL
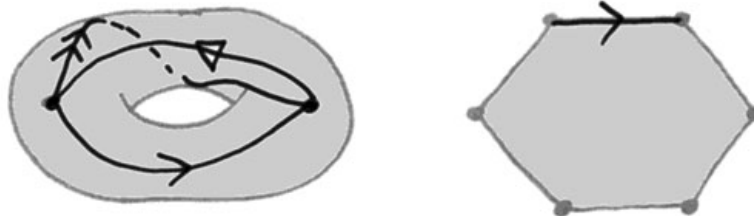
Surfaces and Knots, Dave Bayer, February 21, 2002

Name: ───────────────────────   **School:** ───────────

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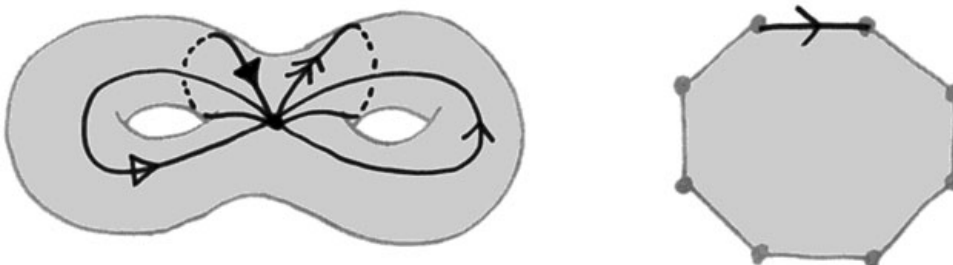

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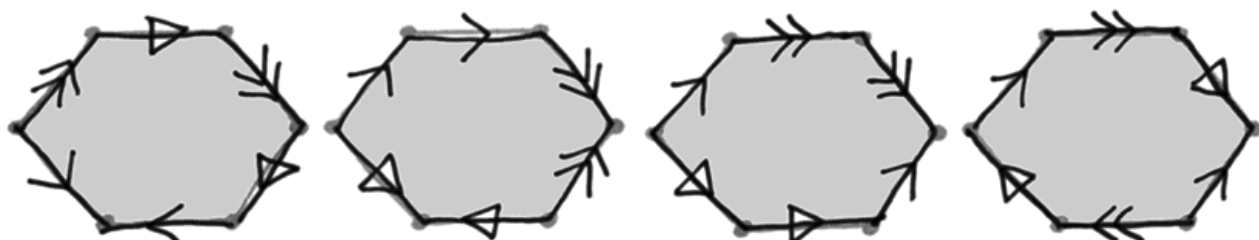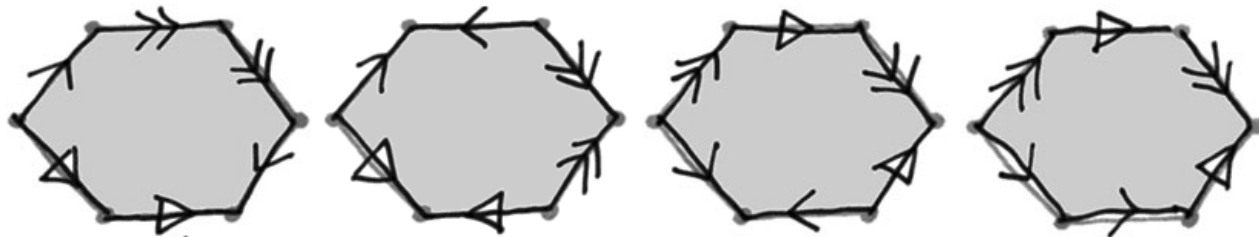
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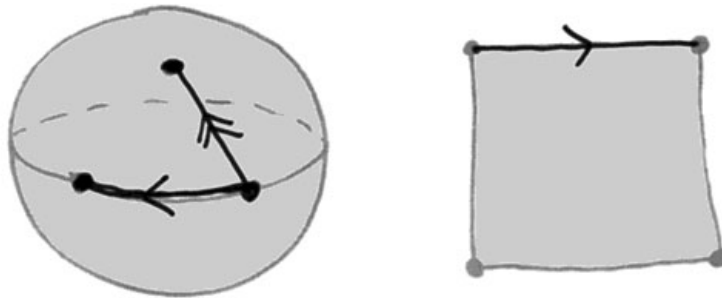
First Exam EM

Surfaces and Knots, Dave Bayer, February 21, 2002
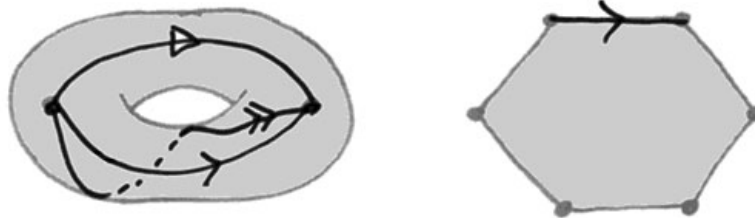
Name: _____ **School:** _____

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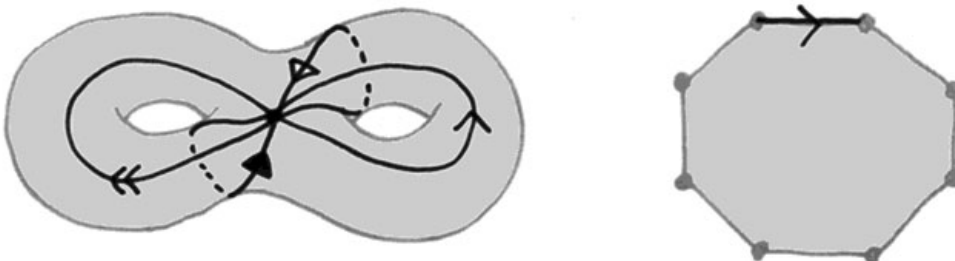

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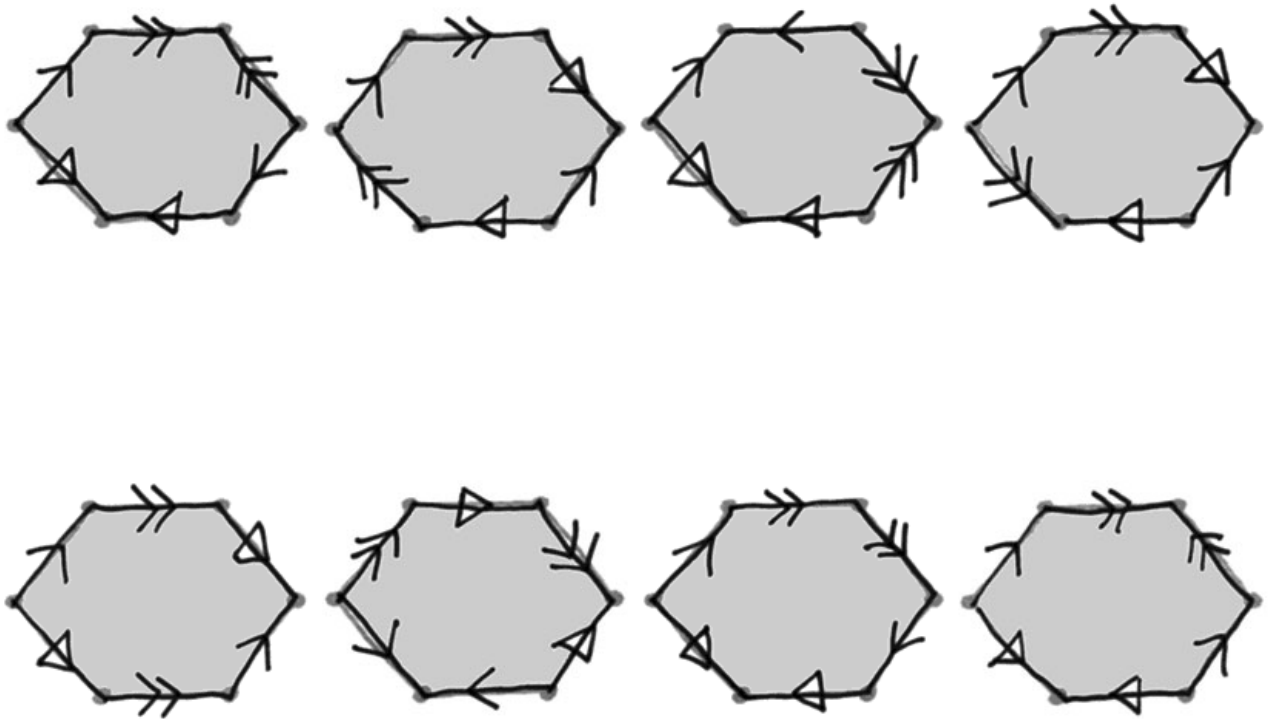
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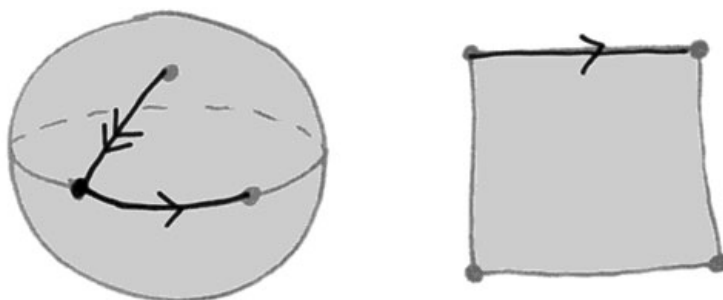
First Exam EN

Surfaces and Knots, Dave Bayer, February 21, 2002
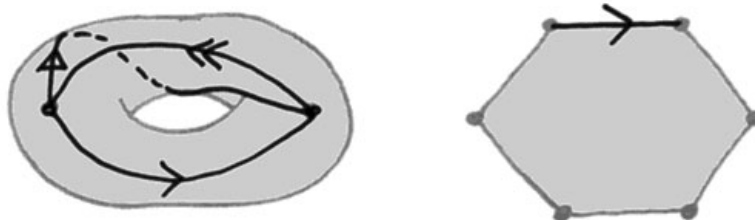
Name: _____   **School:** _____

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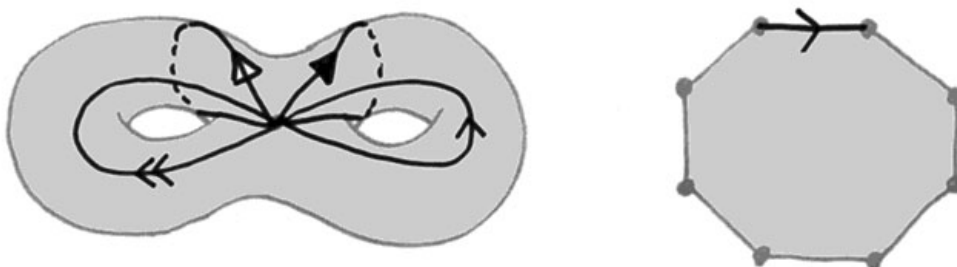

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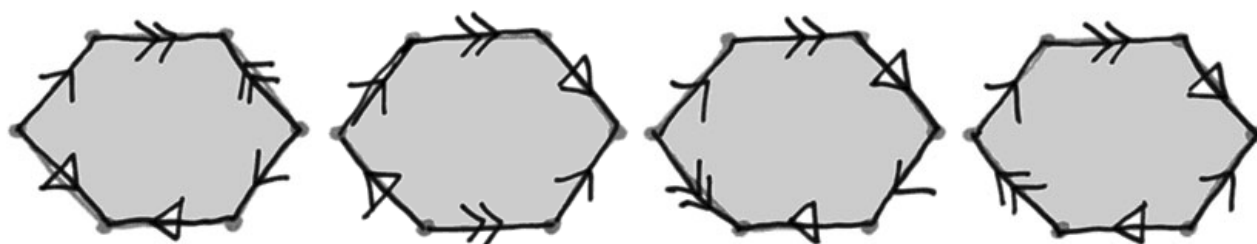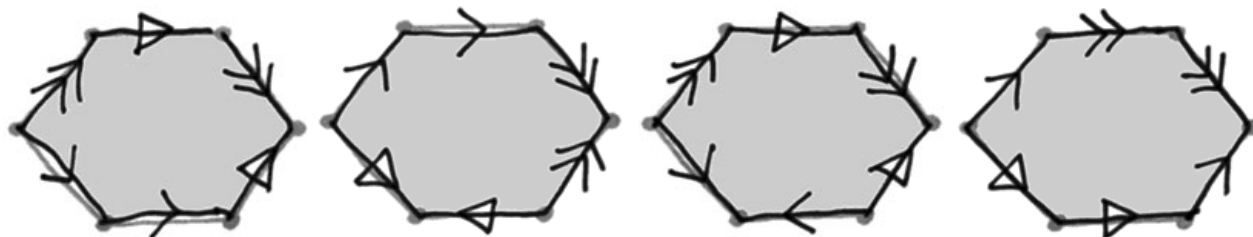
[4] Determine what surface each of the following gluing diagrams represents, by computing its Euler characteristic, and determining whether it is orientable or not.

[5] Find a pair of gluing diagrams, above, which represent the same surface. In any set of eight hexagonal gluing diagrams, why must there always be such a pair? Demonstrate that your pair represents the same surface, by modifying the diagrams until they agree.
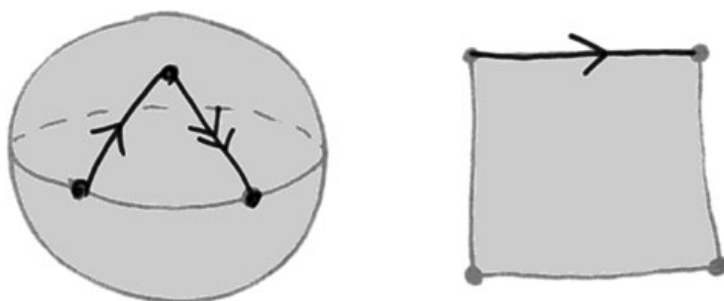
First Exam FA

Surfaces and Knots, Dave Bayer, February 21, 2002
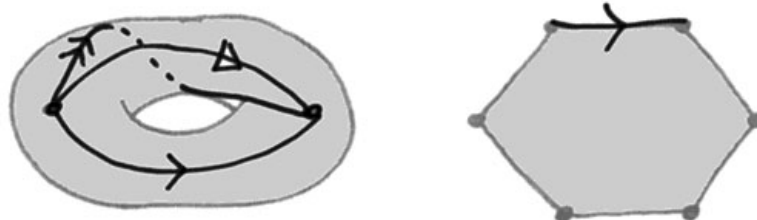
Name: _____ **School:** _____

[1]	**[2]**	**[3]**	**[4]**	**[5]**	**TOTAL**

You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.

[1] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
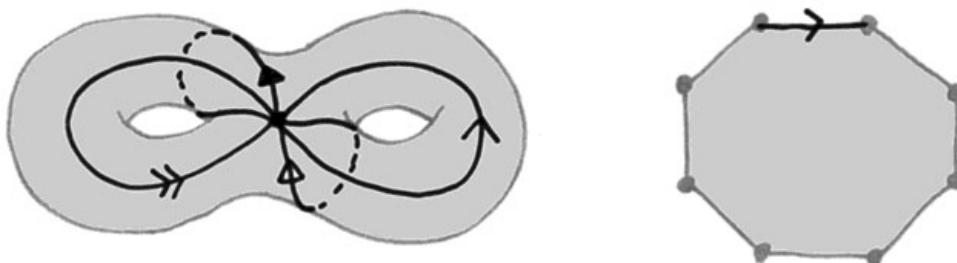

[2] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.

[3] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
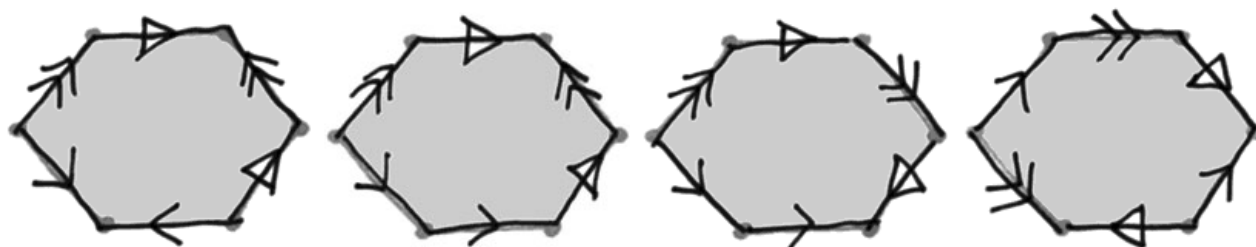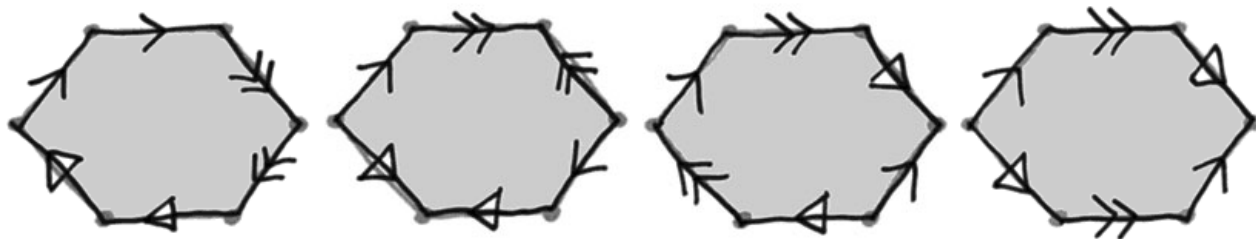
[**4**] Determine what surface each of the following gluing diagrams represents, by computing its Euler characteristic, and determining whether it is orientable or not.

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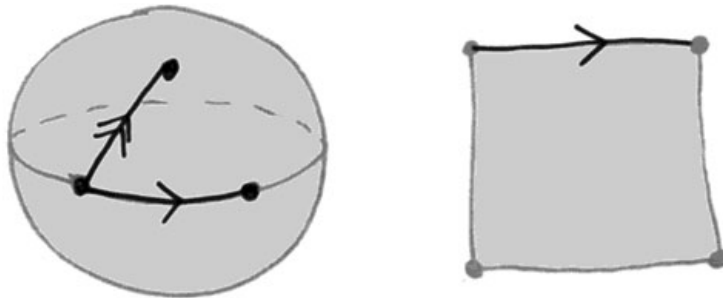
First Exam FB

Surfaces and Knots, Dave Bayer, February 21, 2002
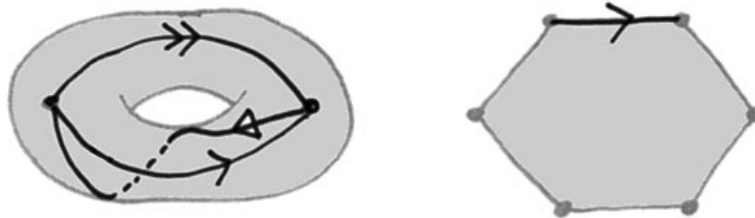
Name: _____ **School:** _____

[1]	[2]	[3]	[4]	[5]	**TOTAL**

   You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.

[1] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
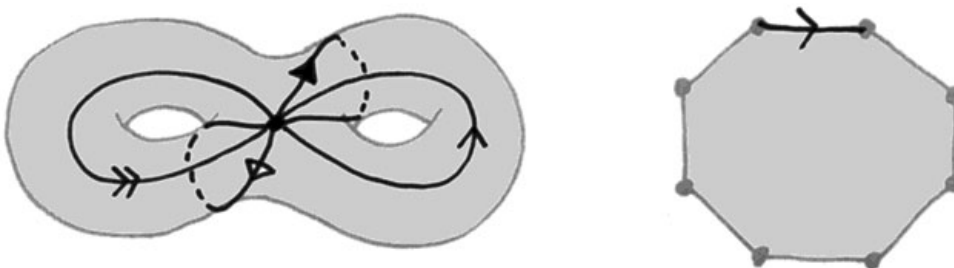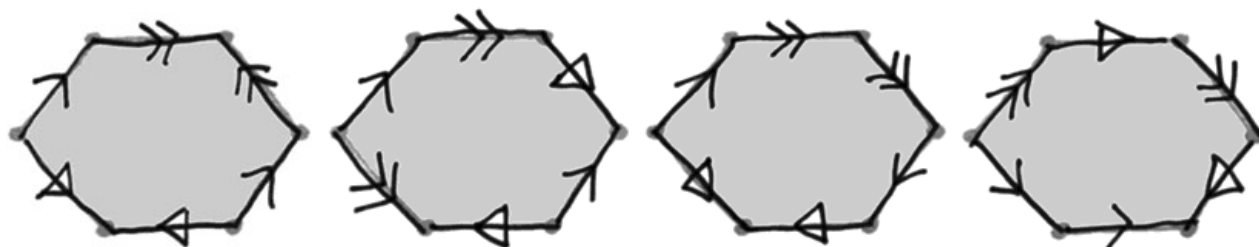

[2] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.

[3] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
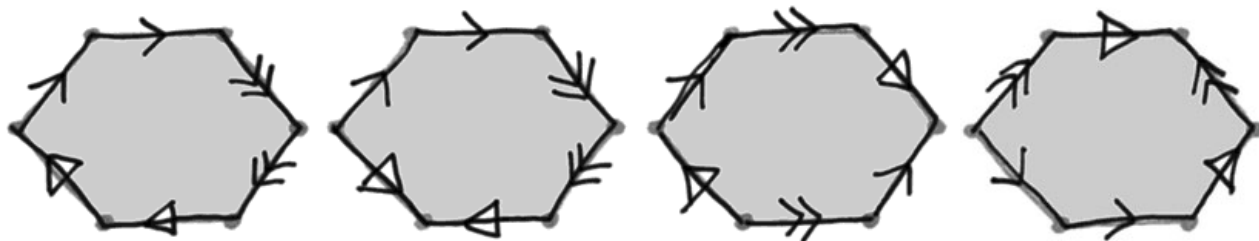
[**4**] Determine what surface each of the following gluing diagrams represents, by computing its Euler characteristic, and determining whether it is orientable or not.

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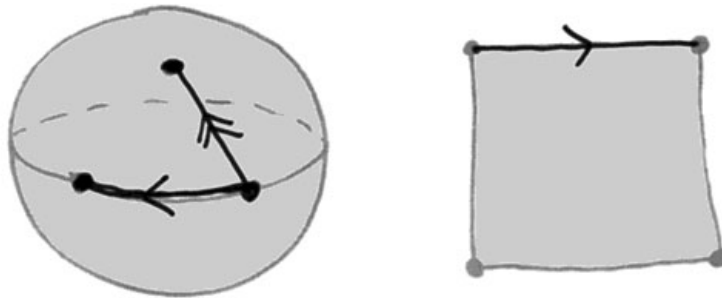
First Exam FC

Surfaces and Knots, Dave Bayer, February 21, 2002
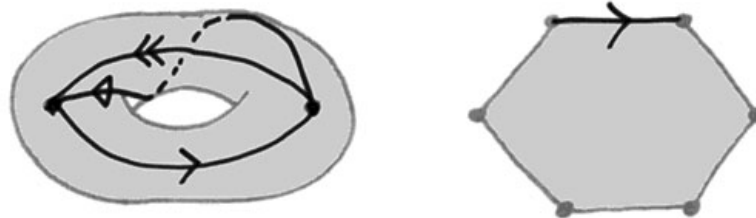
Name: _____ **School:** _____

[1]	[2]	[3]	[4]	[5]	**TOTAL**

You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.

[1] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
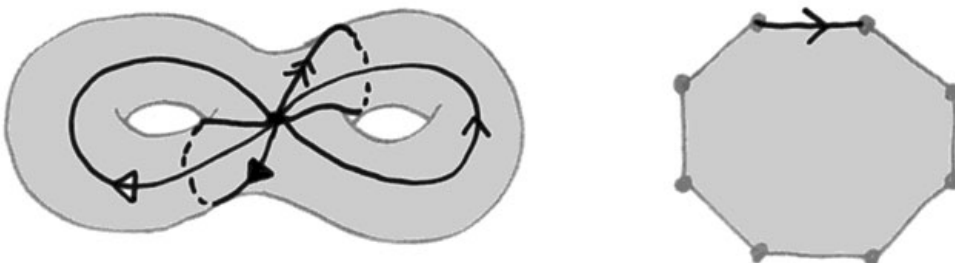

[2] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.

[3] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
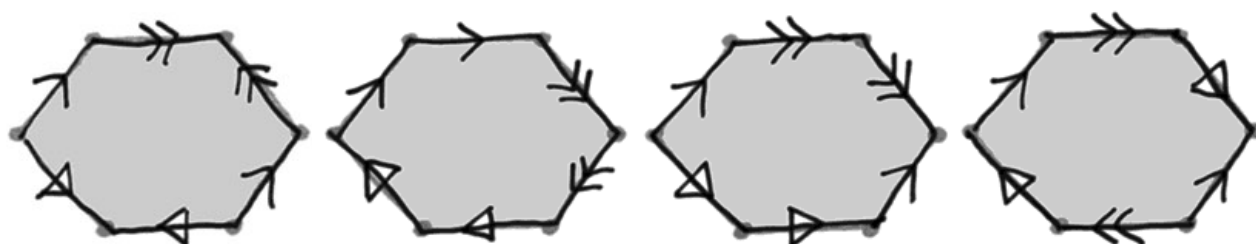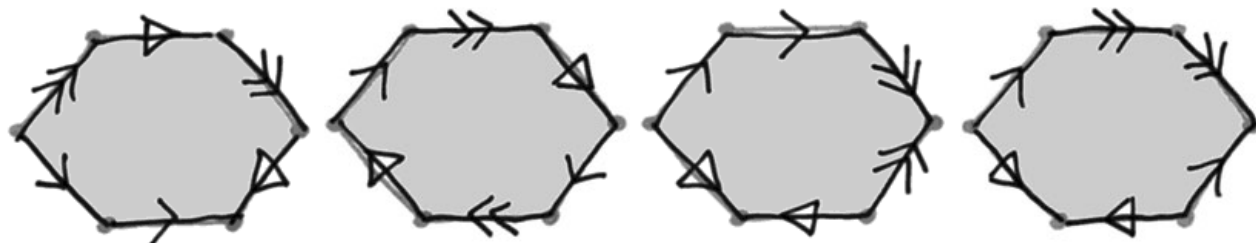
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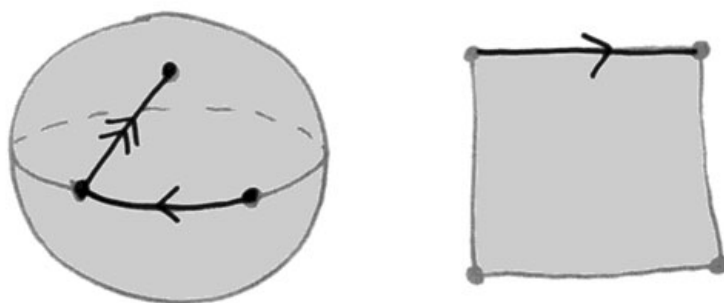
First Exam FD

Surfaces and Knots, Dave Bayer, February 21, 2002
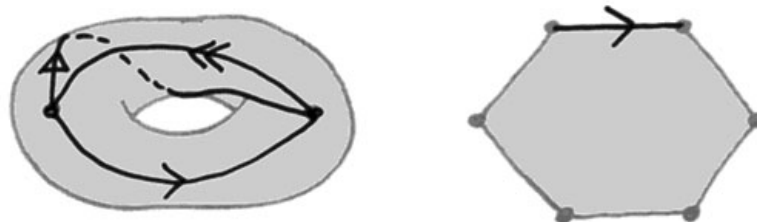
Name: _____ **School:** _____

[1]	[2]	[3]	[4]	[5]	**TOTAL**

You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.

[1] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
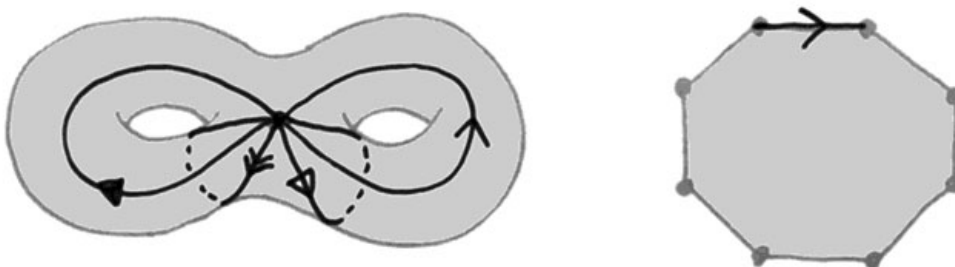

[2] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.

[3] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
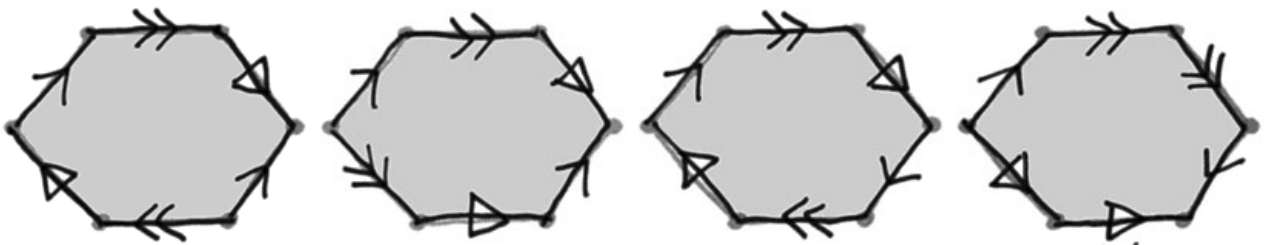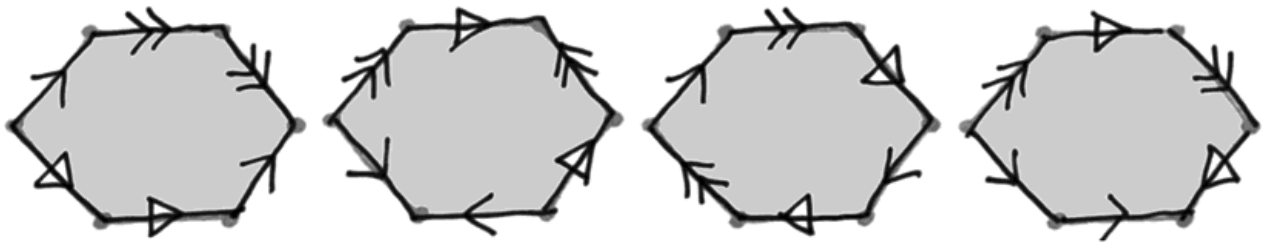
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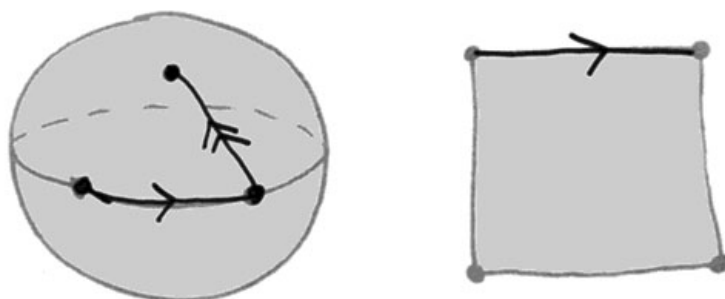
First Exam FE

Surfaces and Knots, Dave Bayer, February 21, 2002
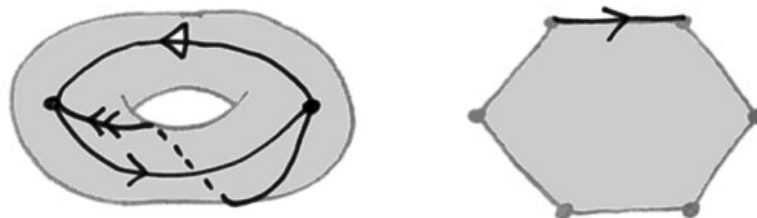
Name: _____   **School:** _____

[1]	**[2]**	**[3]**	**[4]**	**[5]**	**TOTAL**

You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.

[1] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
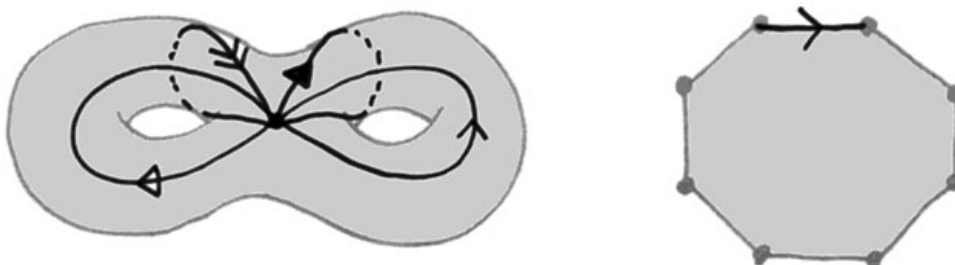

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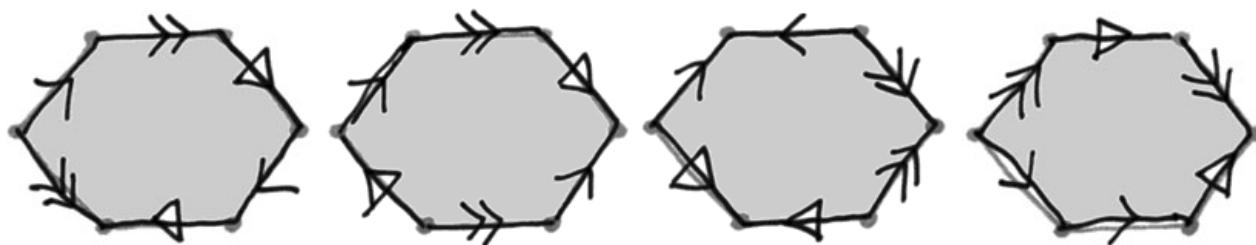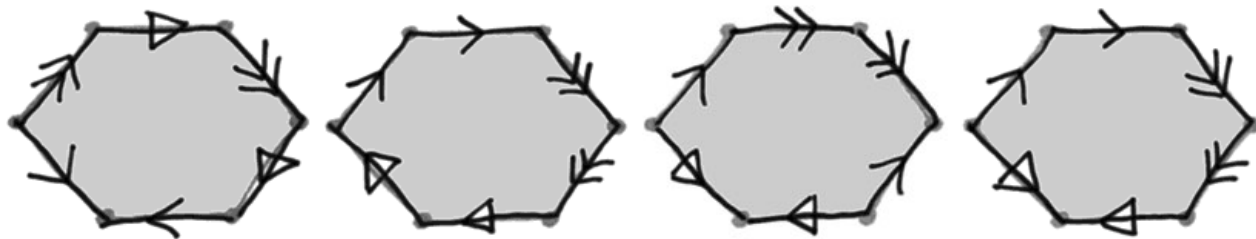
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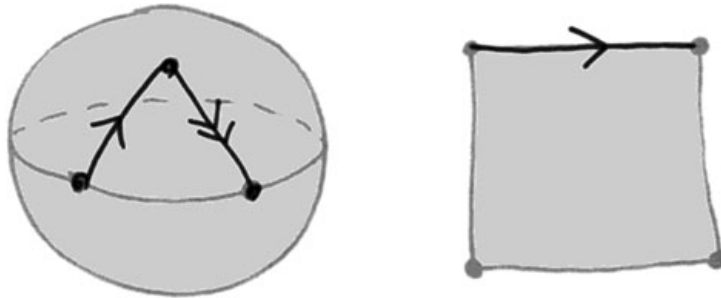
First Exam FF
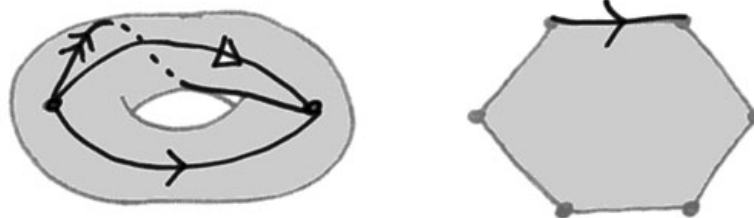
Surfaces and Knots, Dave Bayer, February 21, 2002

Name: ⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯ **School:** ⎯⎯⎯⎯⎯⎯⎯⎯⎯

[1]	[2]	[3]	[4]	[5]	TOTAL

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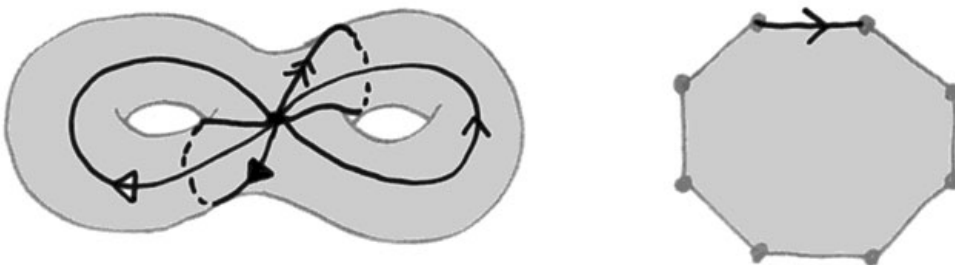

[3] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
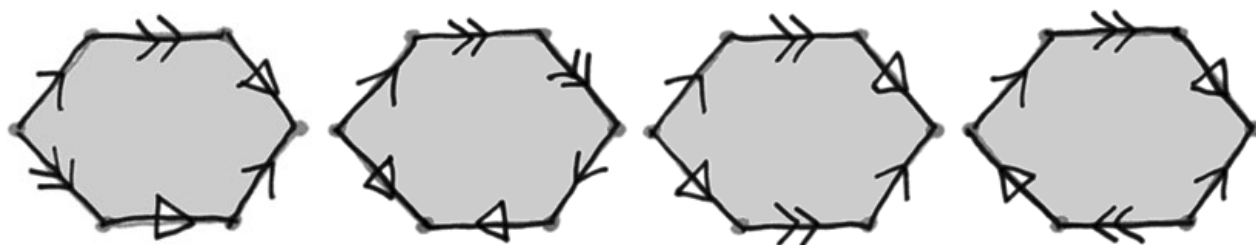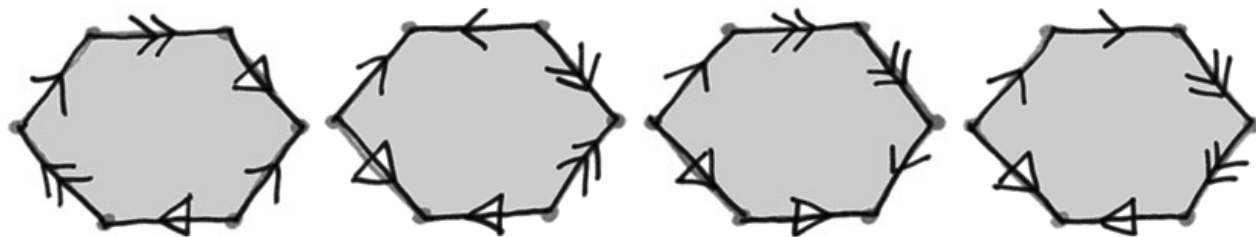
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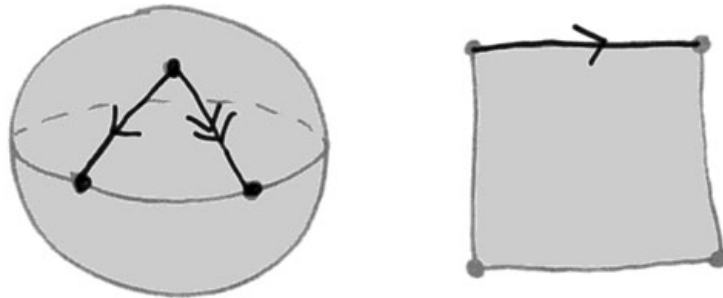
First Exam FG
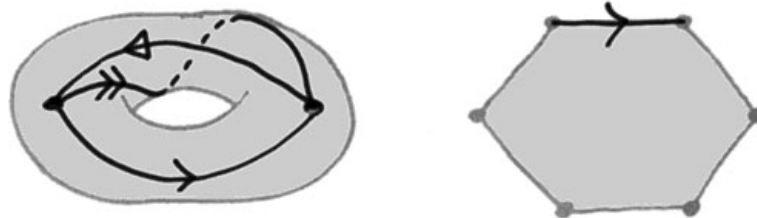
Surfaces and Knots, Dave Bayer, February 21, 2002

Name: ─────────────────────── **School:** ──────────

[1]	[2]	[3]	[4]	[5]	**TOTAL**

You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.

[1] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.

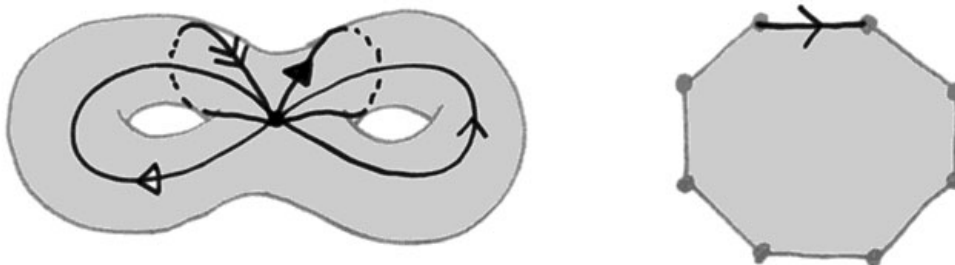**[2]** Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
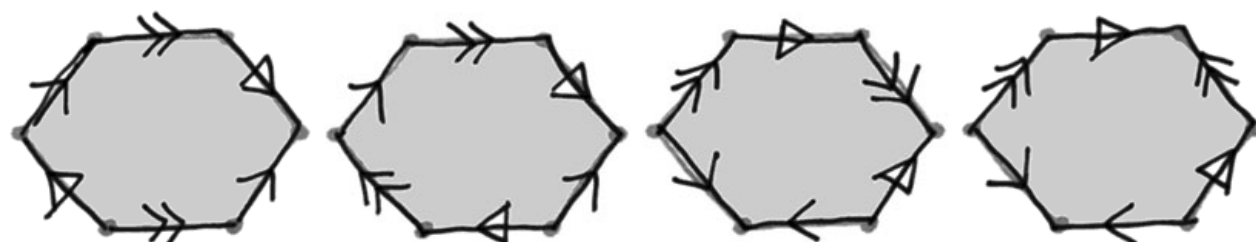

[3] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
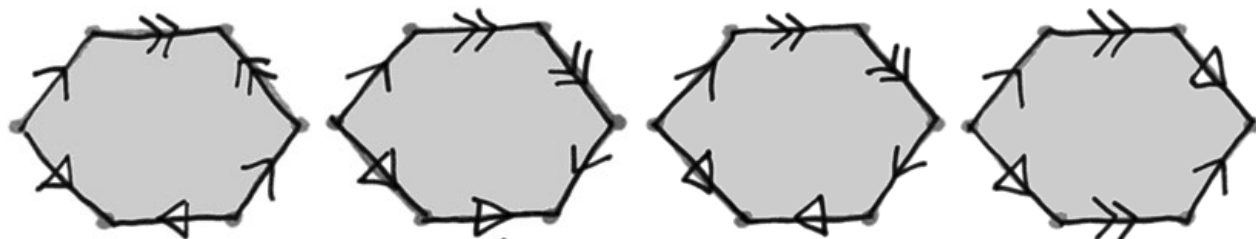
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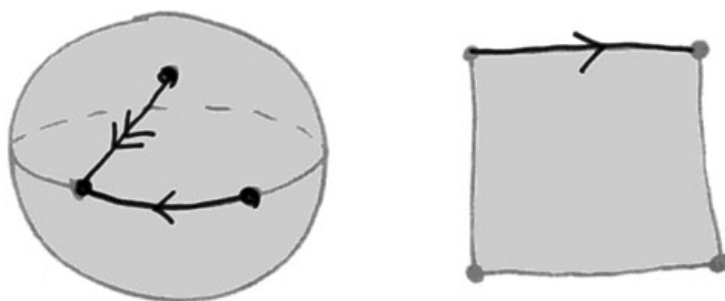
First Exam FH

Surfaces and Knots, Dave Bayer, February 21, 2002
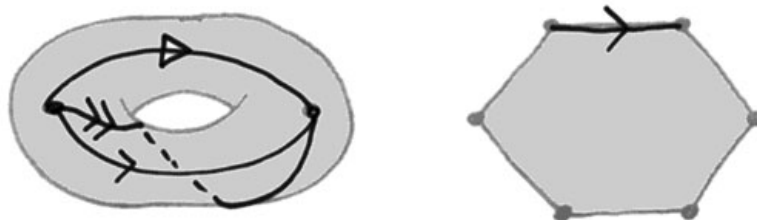
Name: _____ **School:** _____

[1]	**[2]**	**[3]**	**[4]**	**[5]**	**TOTAL**

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[2] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
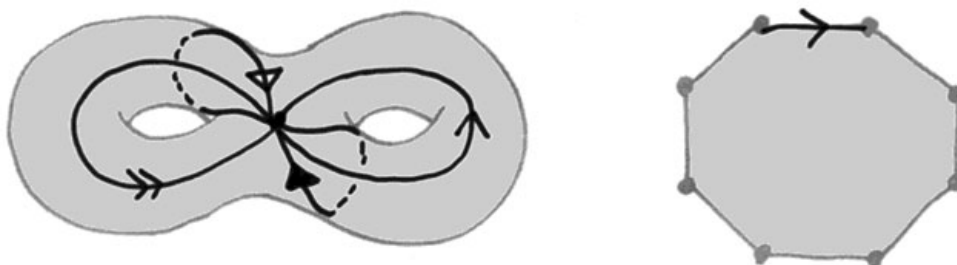

[3] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
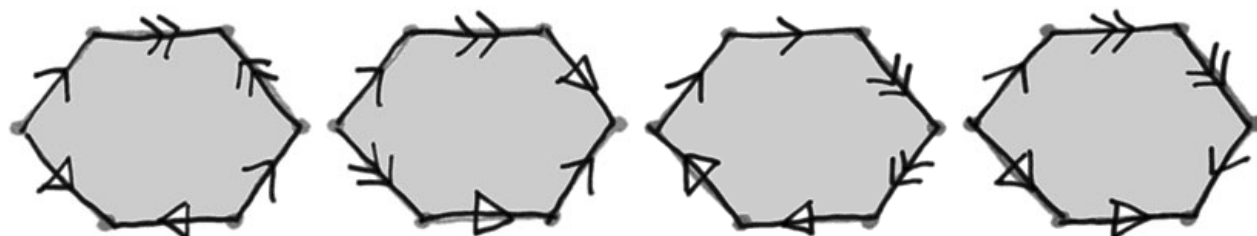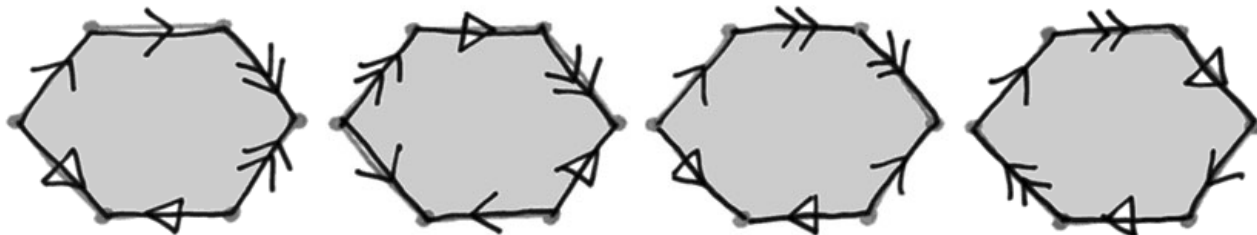
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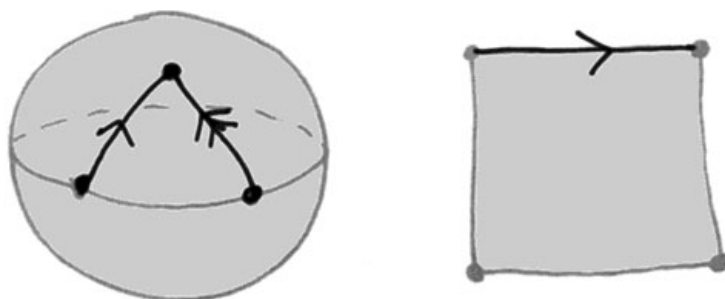
First Exam FI

Surfaces and Knots, Dave Bayer, February 21, 2002
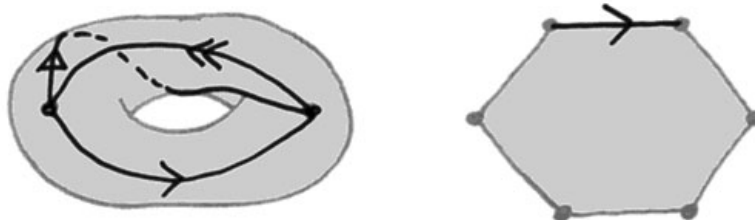
Name: _____ **School:** _____

[1]	**[2]**	**[3]**	**[4]**	**[5]**	**TOTAL**

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[1] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.

[2] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
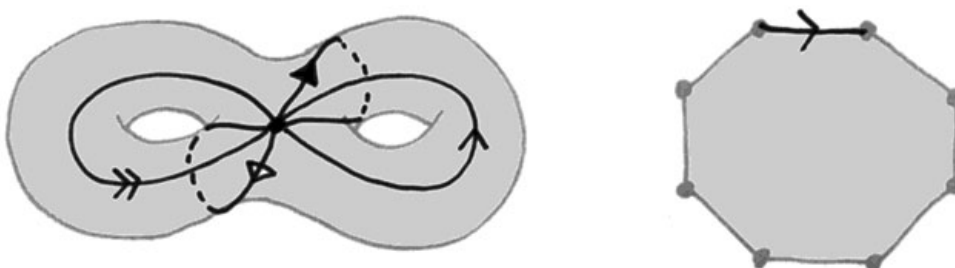

[3] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
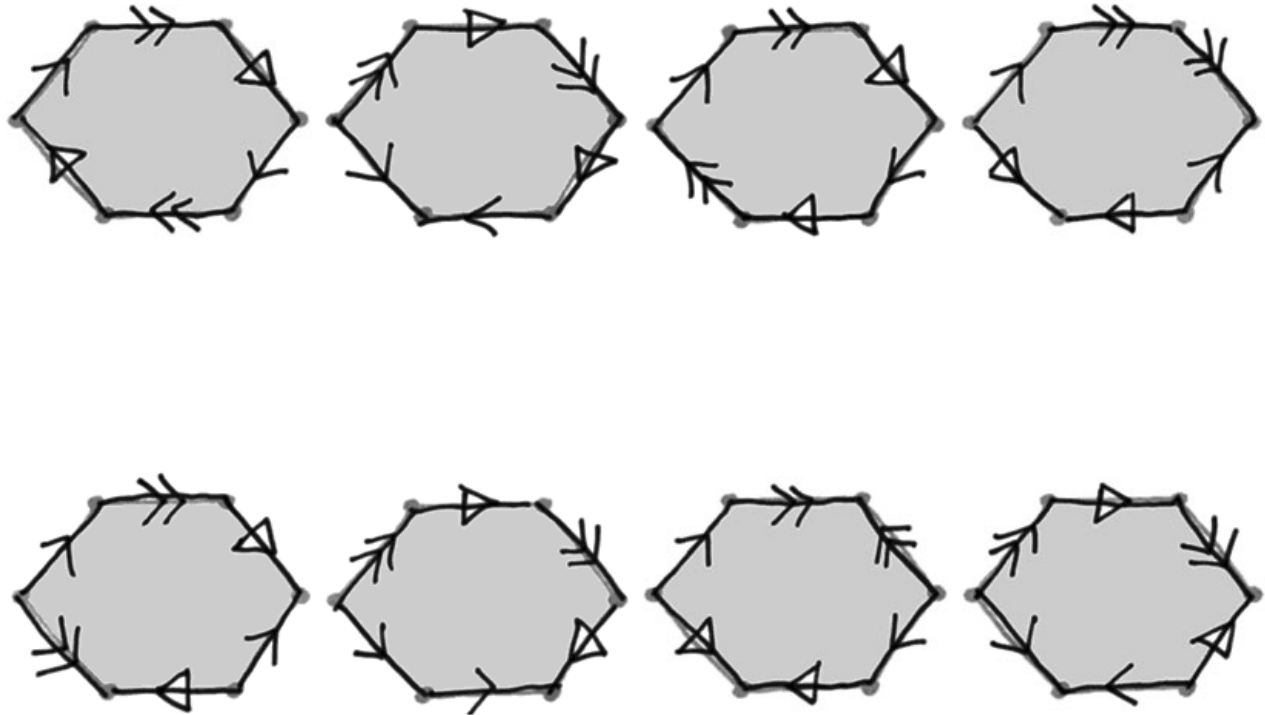
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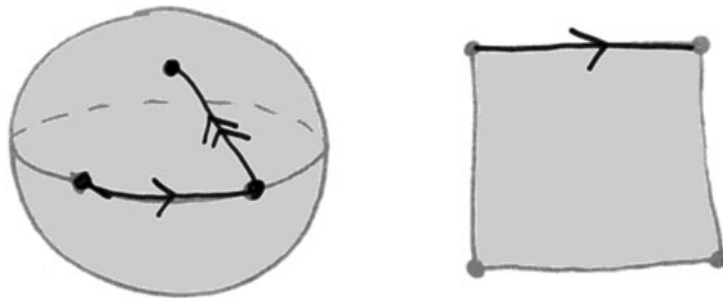
First Exam FJ

Surfaces and Knots, Dave Bayer, February 21, 2002
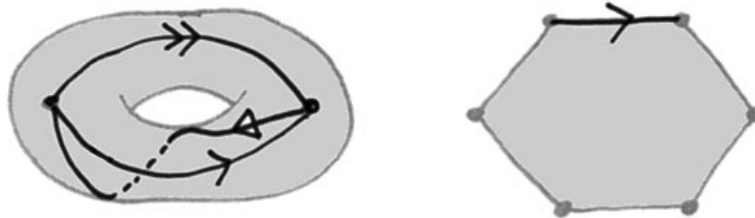
Name: _____ **School:** _____

[1]	[2]	[3]	[4]	[5]	**TOTAL**

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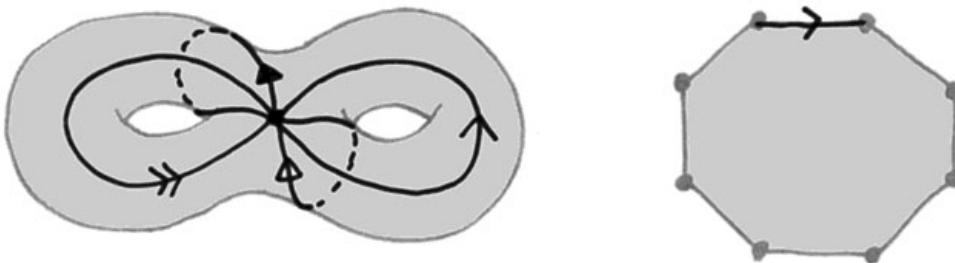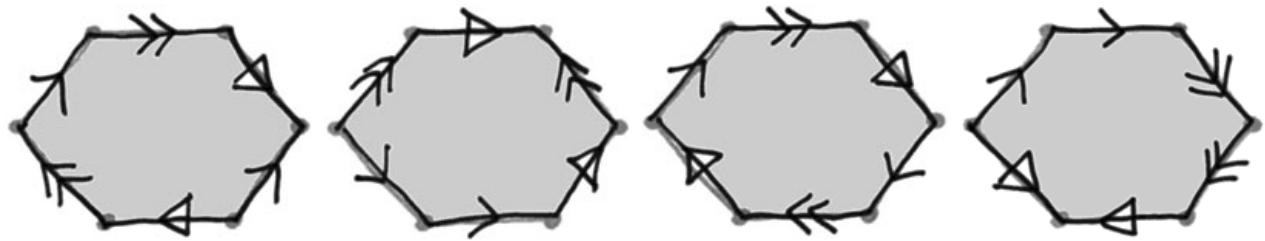[2] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.

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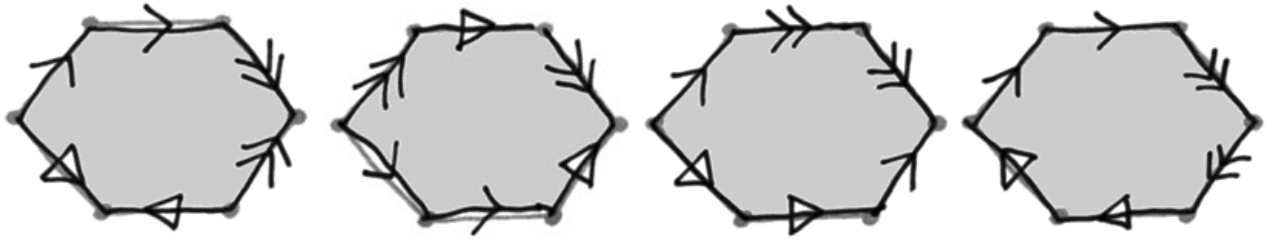
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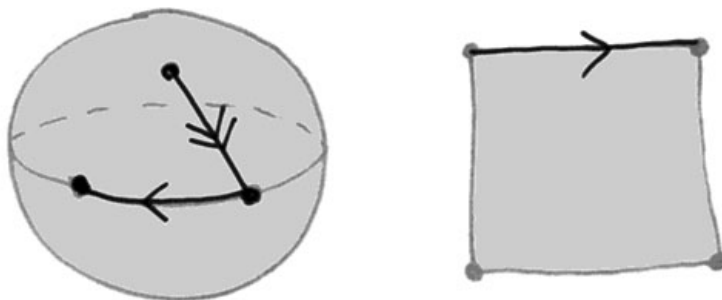
First Exam FK

Surfaces and Knots, Dave Bayer, February 21, 2002
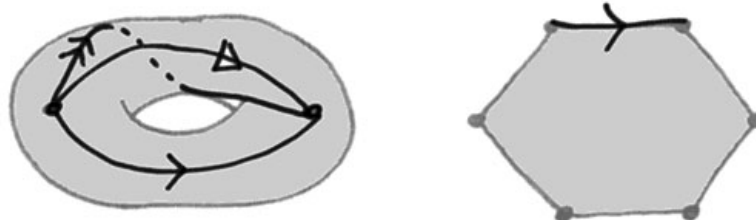
Name: _____ **School:** _____

[1]	[2]	[3]	[4]	[5]	**TOTAL**

You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.

[1] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
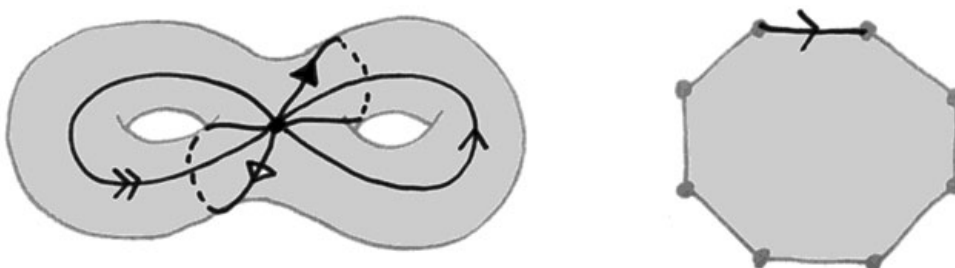

[2] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.

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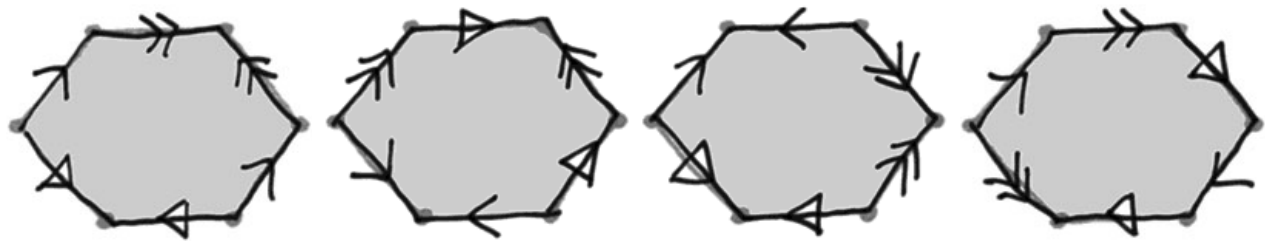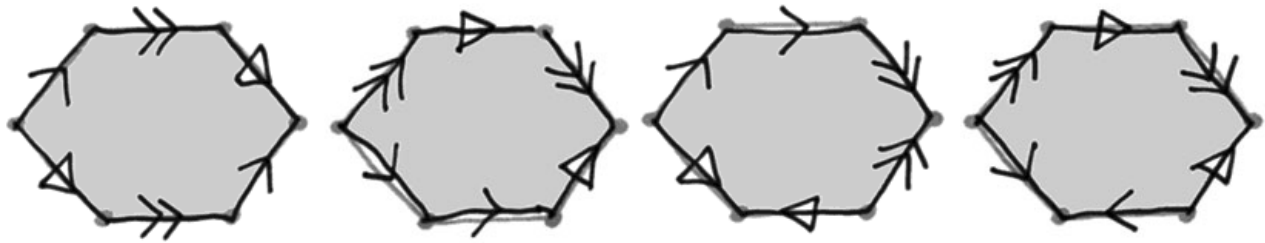
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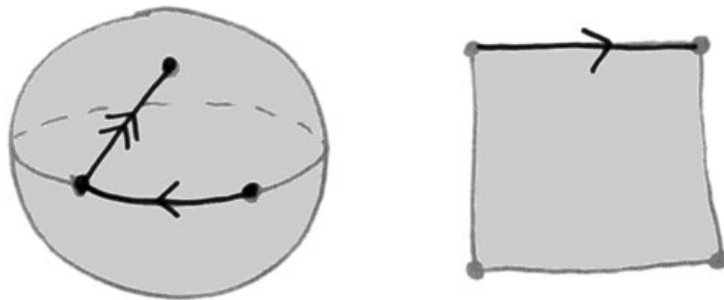
First Exam FL

Surfaces and Knots, Dave Bayer, February 21, 2002
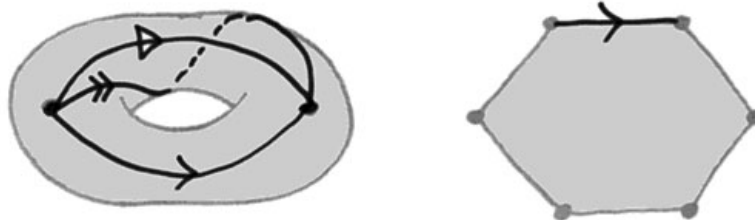
Name: _____ **School:** _____

[1]	**[2]**	**[3]**	**[4]**	**[5]**	**TOTAL**

You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.

[1] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
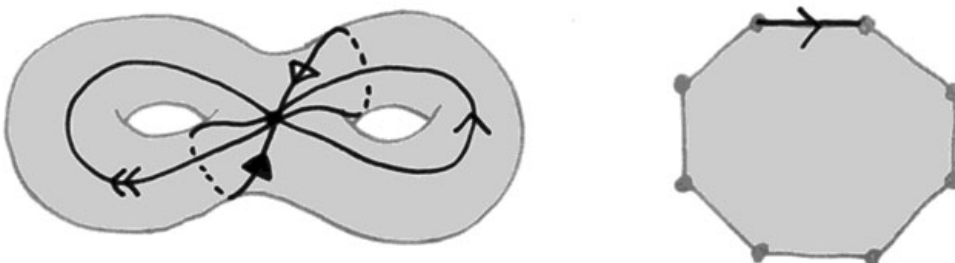

[2] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.

[3] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
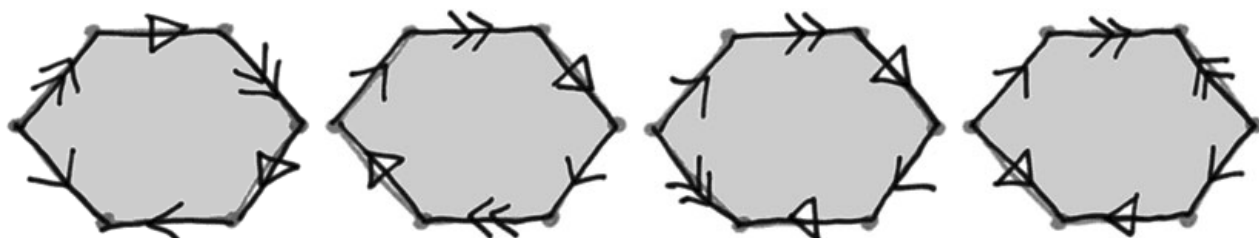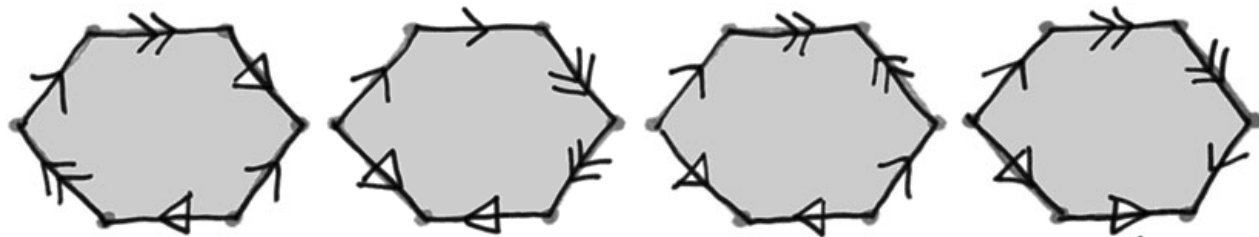
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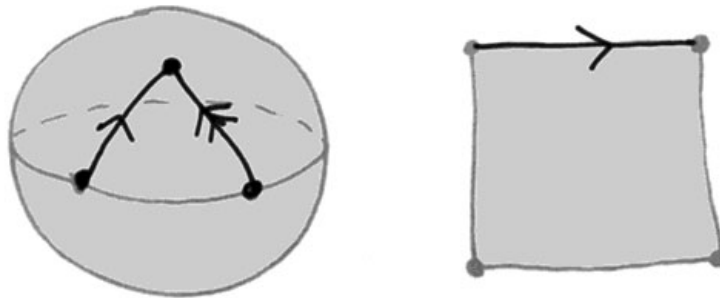
First Exam FM
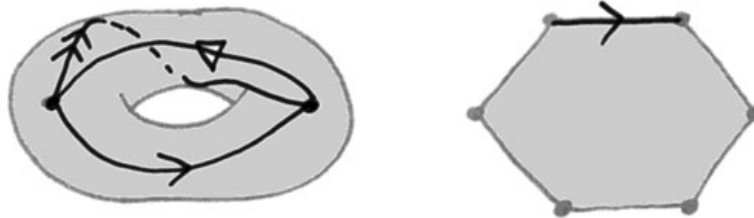
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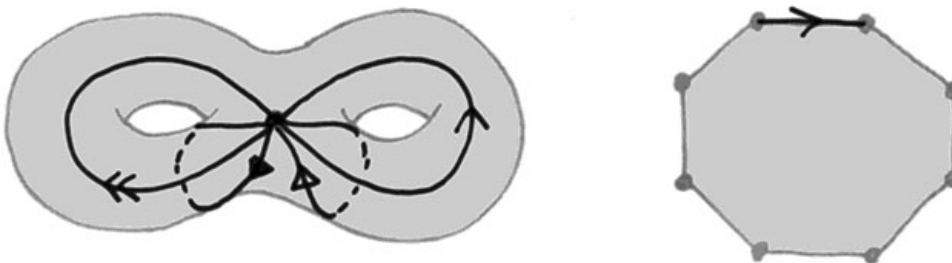

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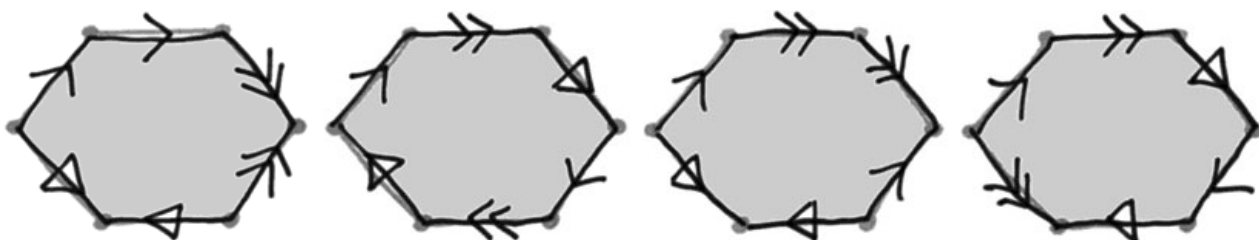

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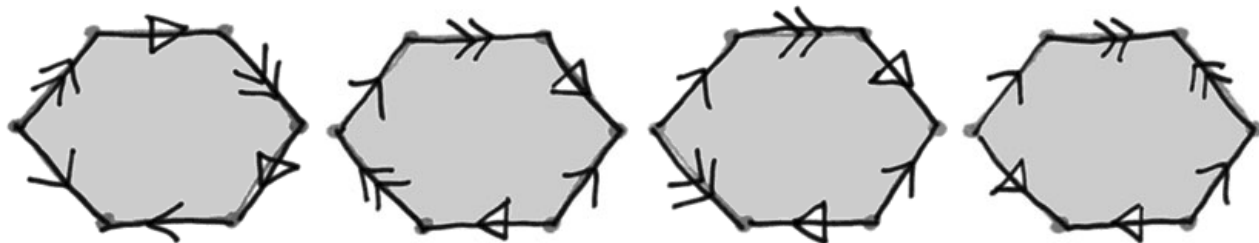
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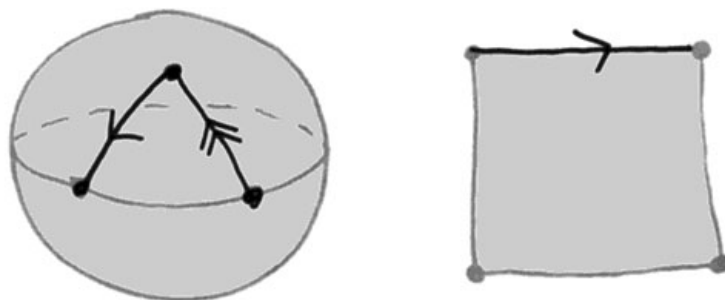
First Exam FN

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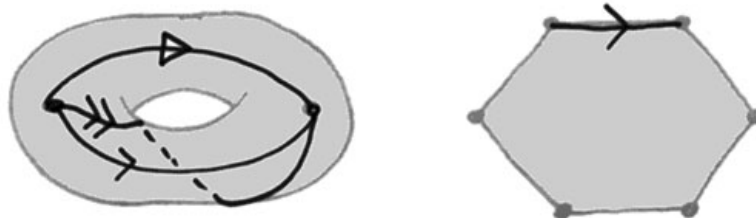
Name: _____ **School:** _____

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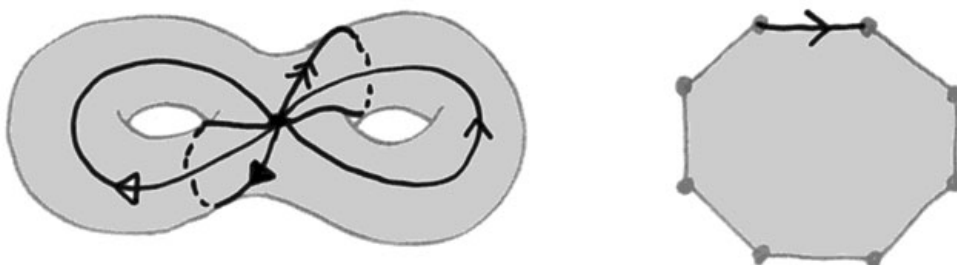
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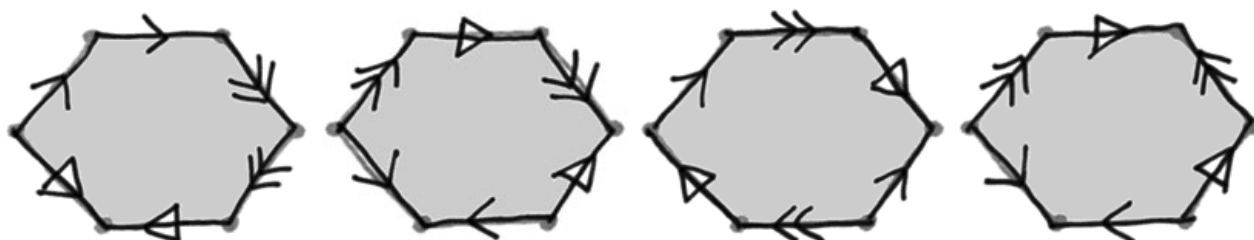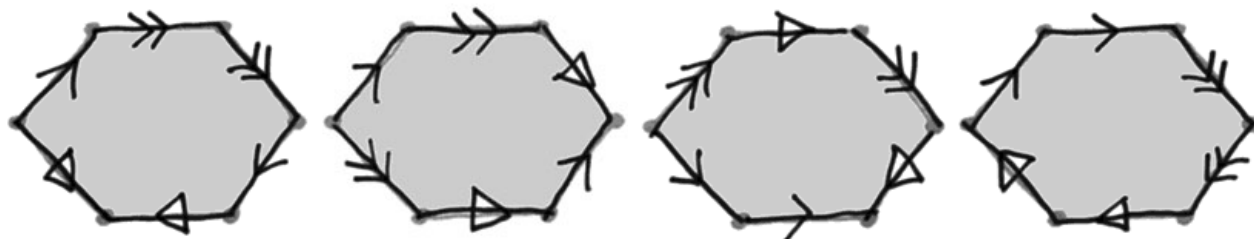
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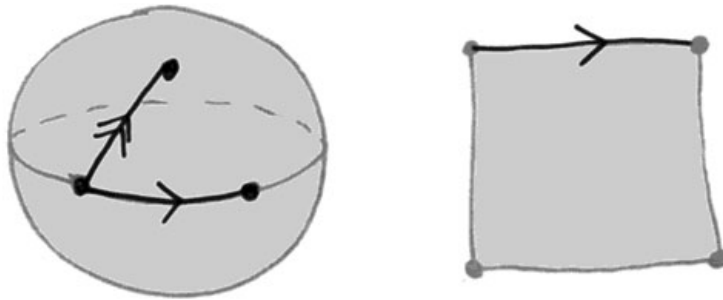
First Exam GA
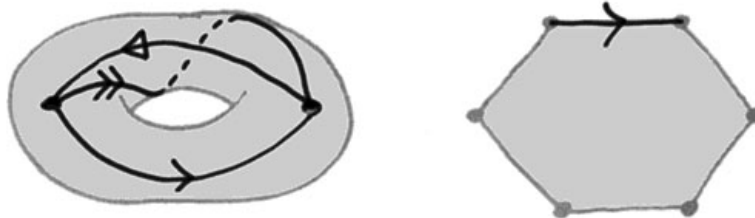
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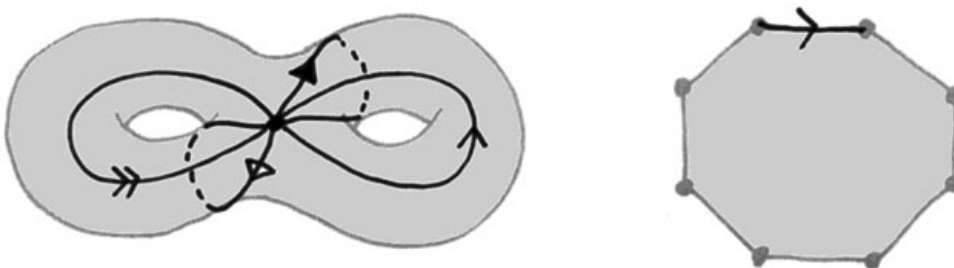

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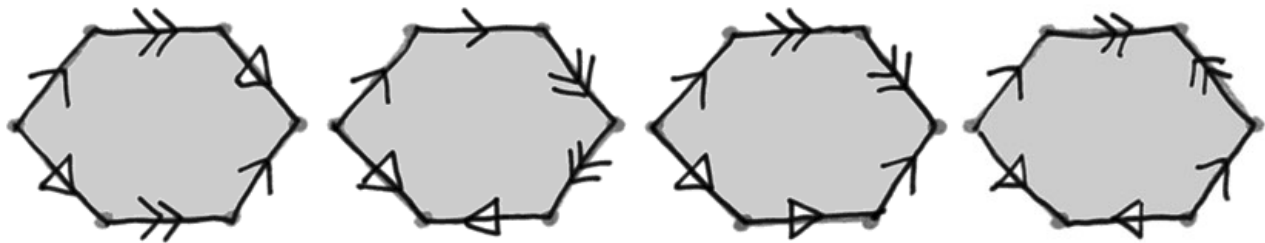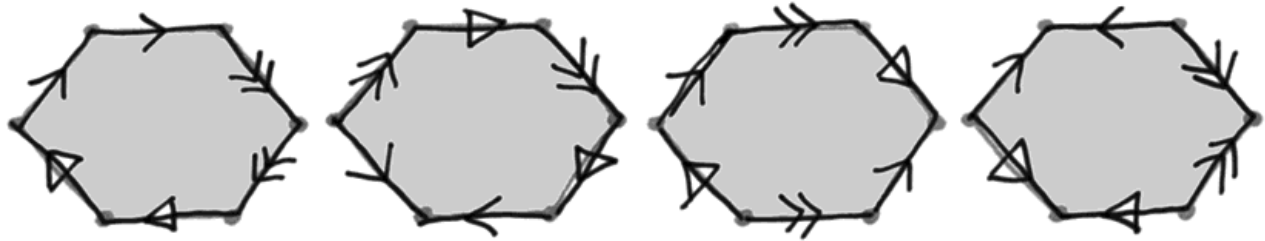
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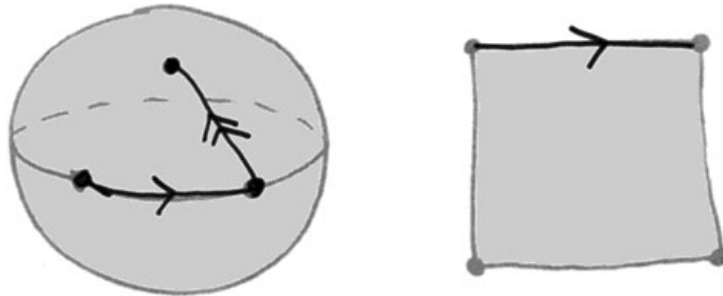
First Exam GB
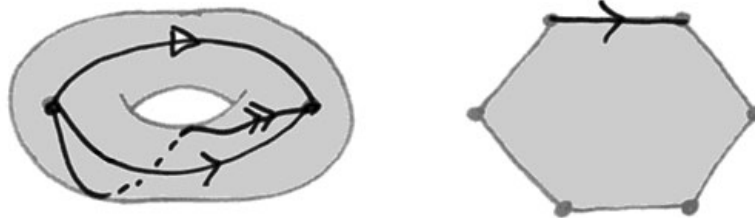
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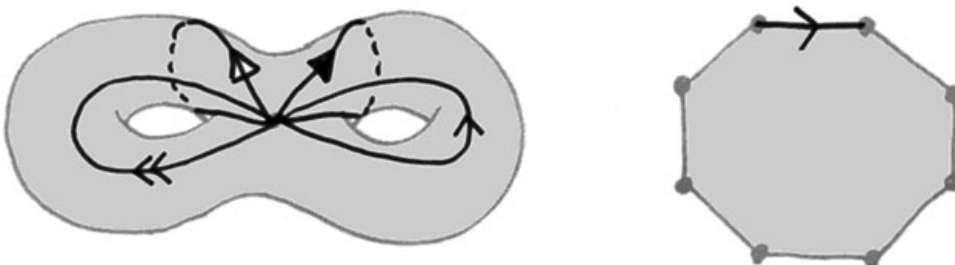

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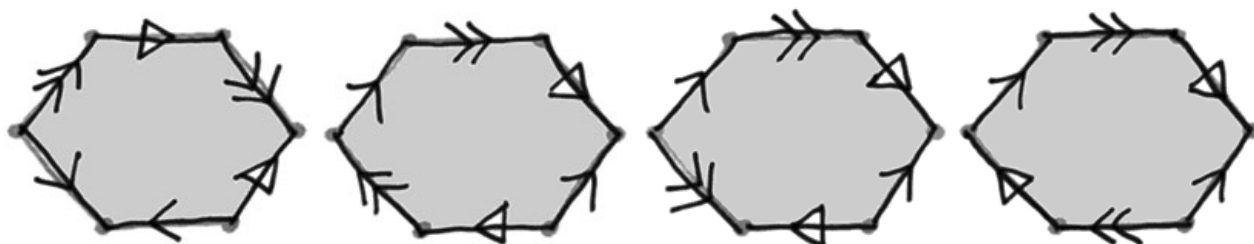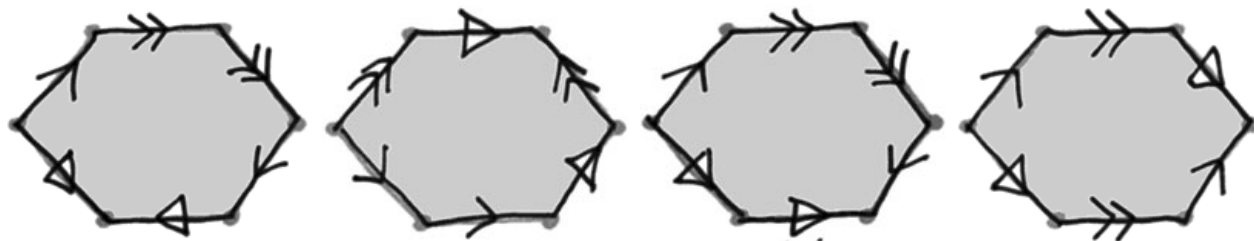
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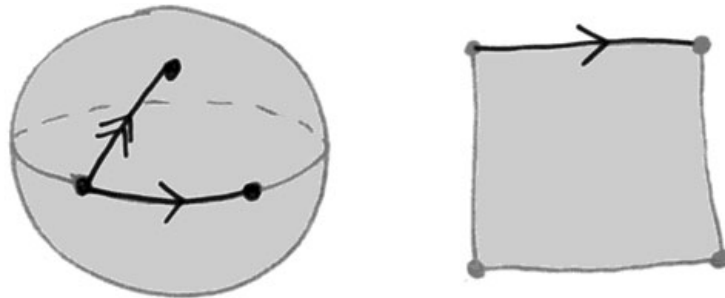
First Exam GC
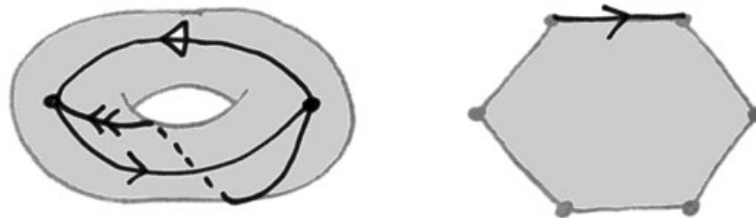
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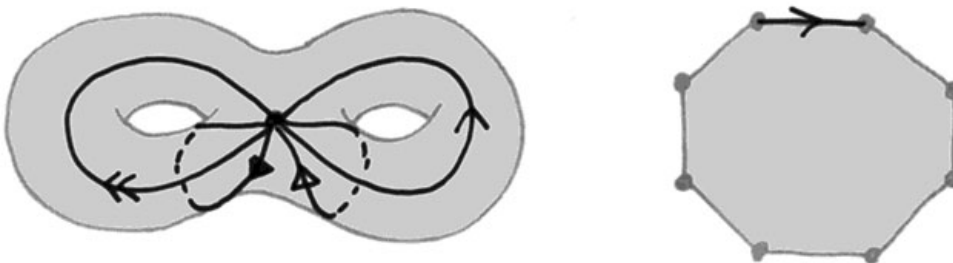**[2]** Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
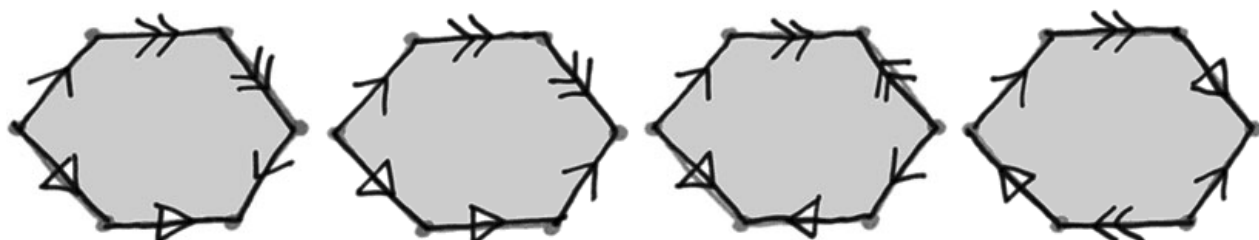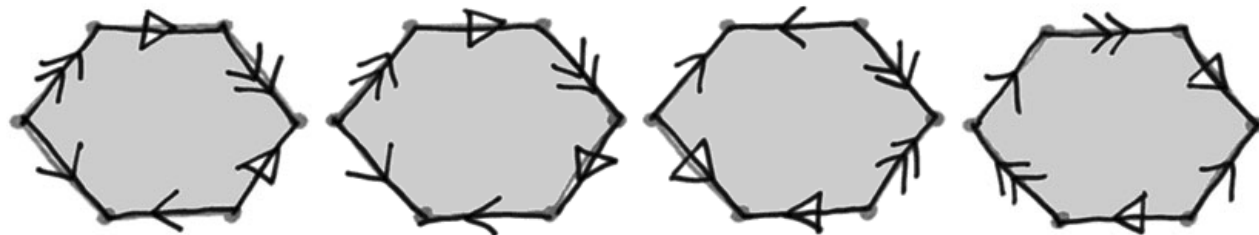

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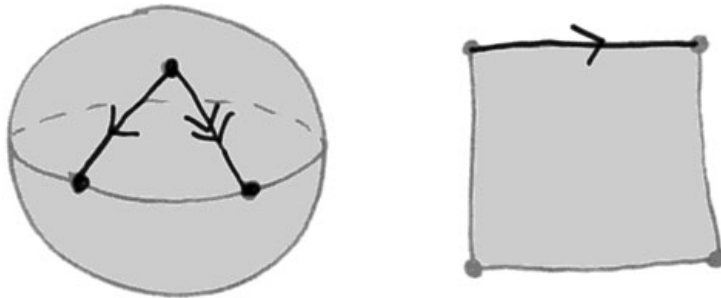
First Exam GD

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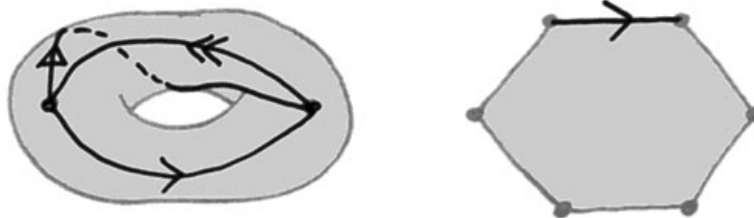
Name: _____ **School:** _____

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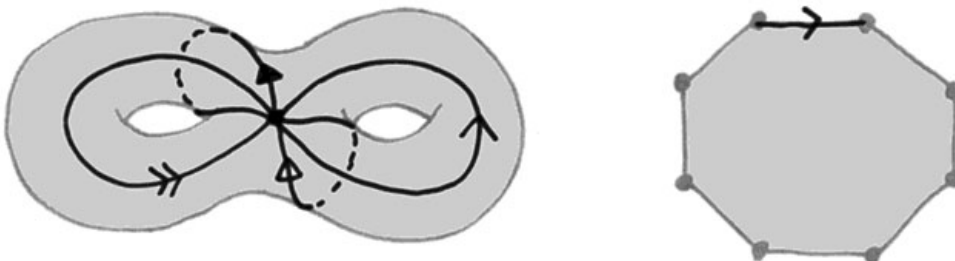

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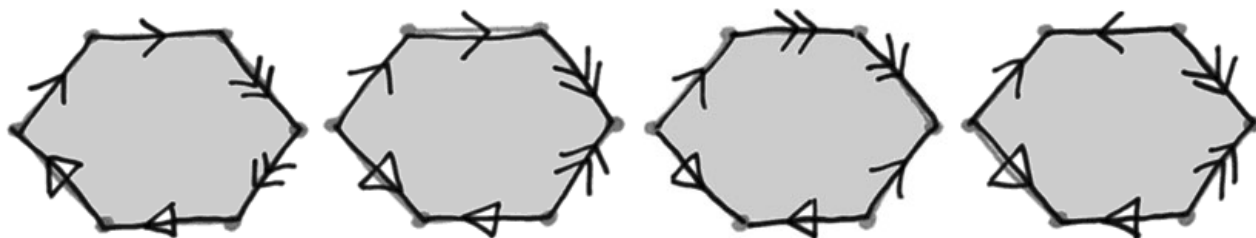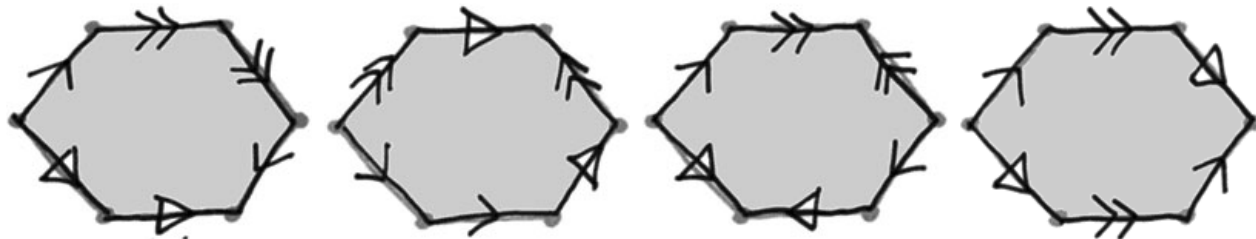
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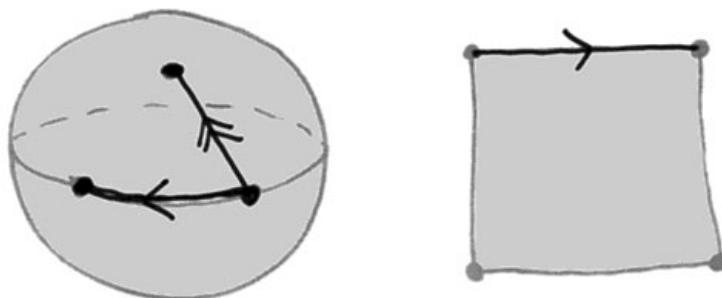
First Exam GE

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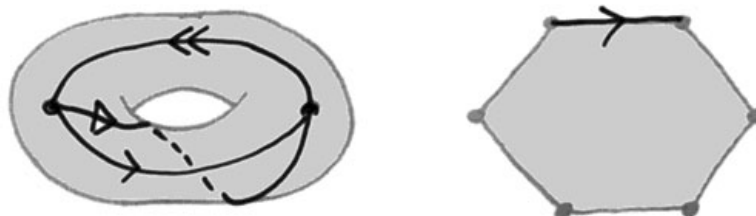
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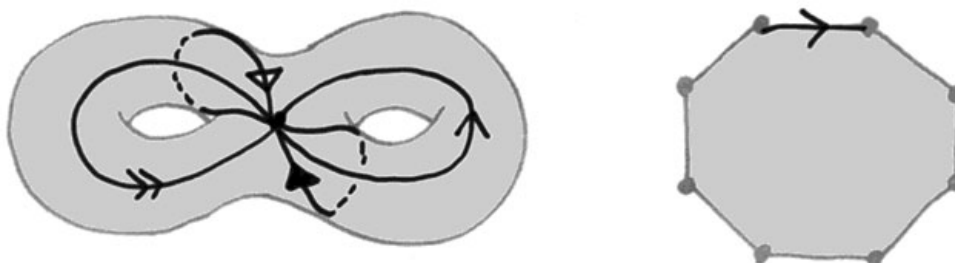

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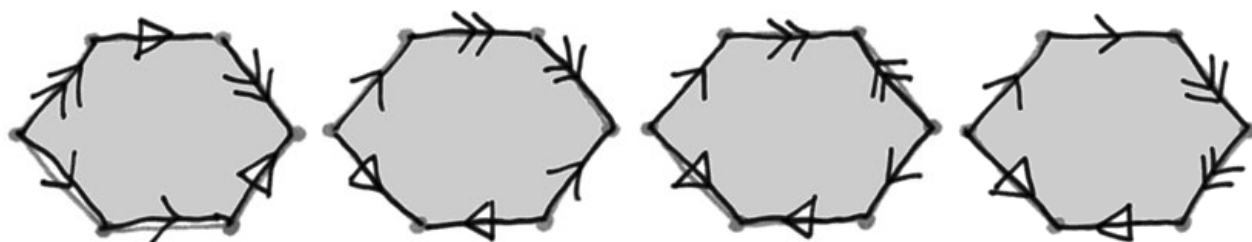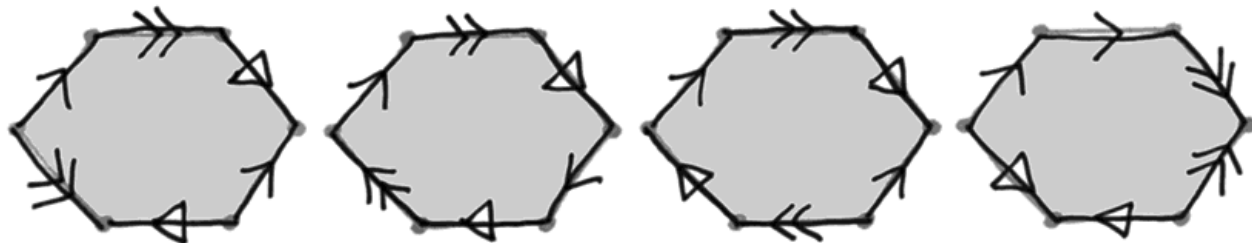
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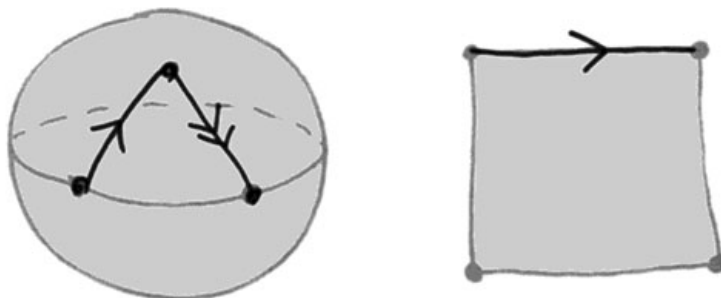
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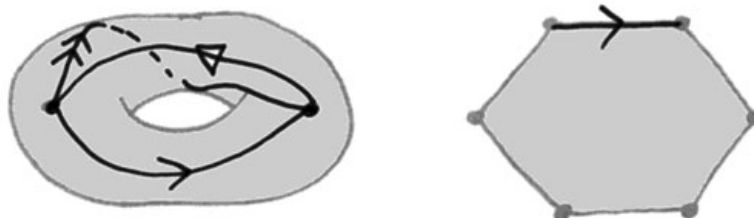
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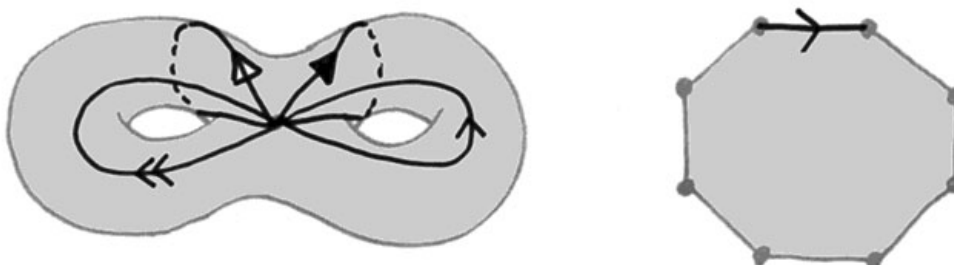**[2]** Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
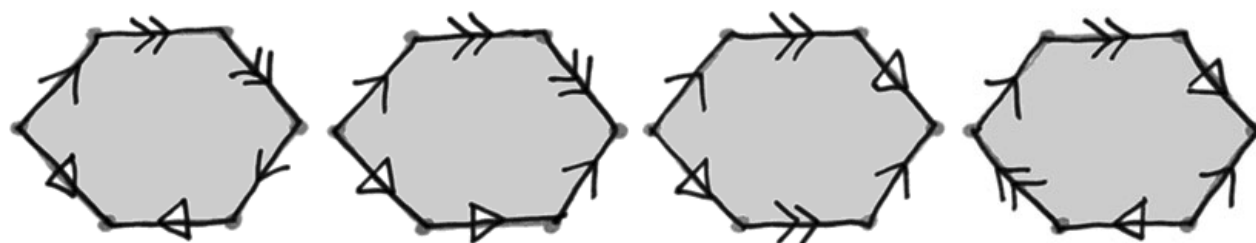

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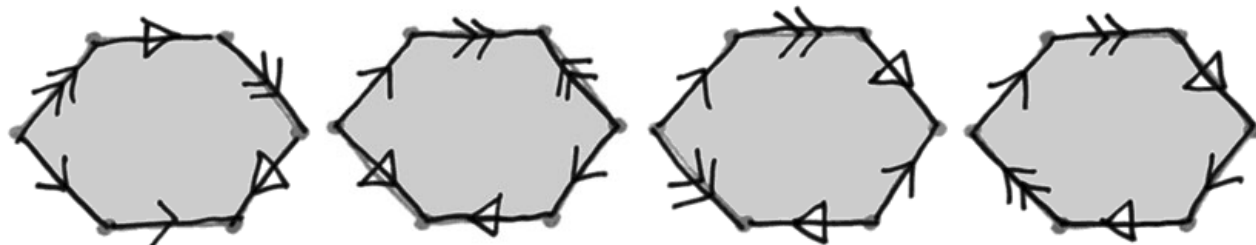
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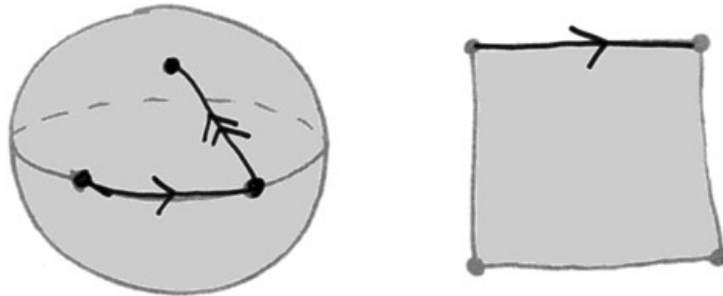
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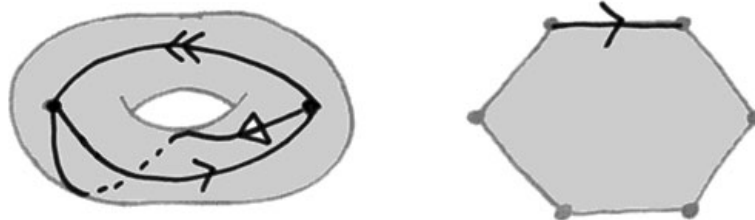
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Name: ⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯ **School:** ⎯⎯⎯⎯⎯⎯⎯

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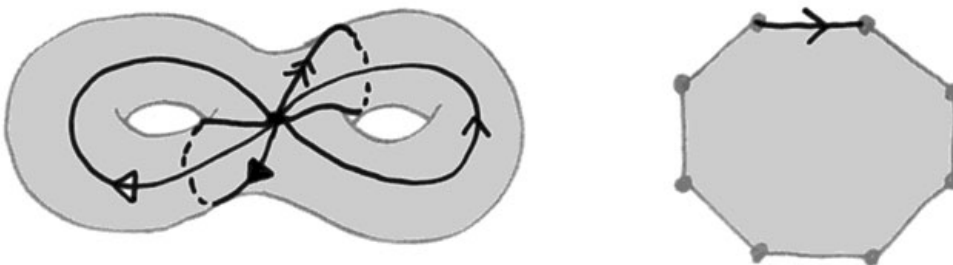**[2]** Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
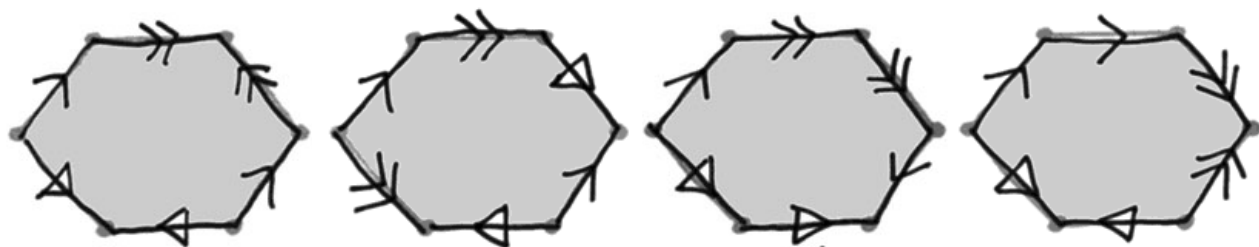

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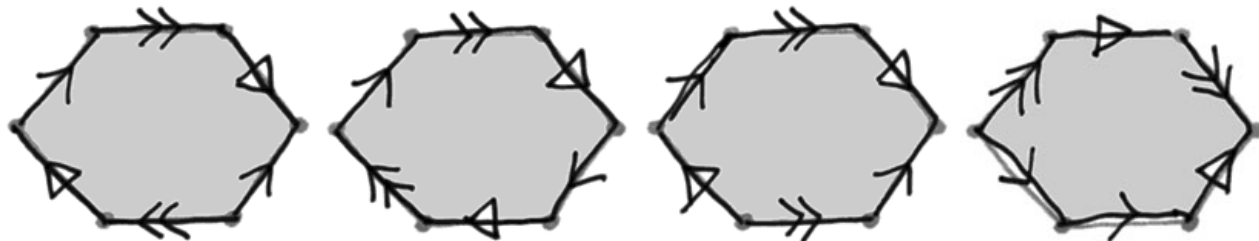
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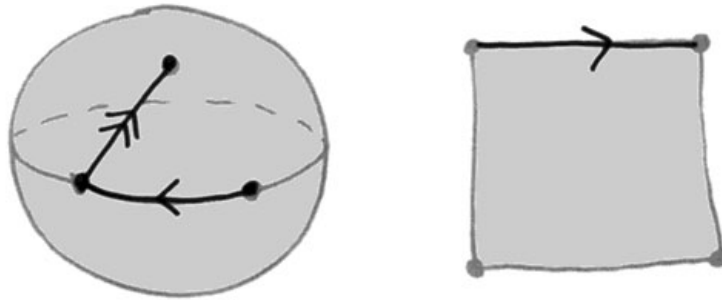
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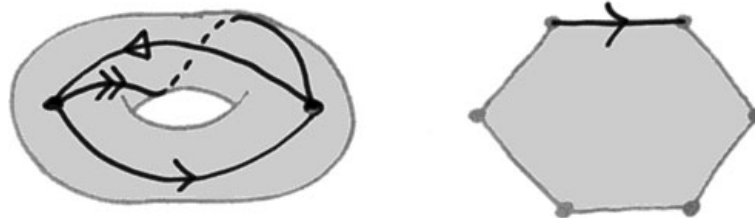
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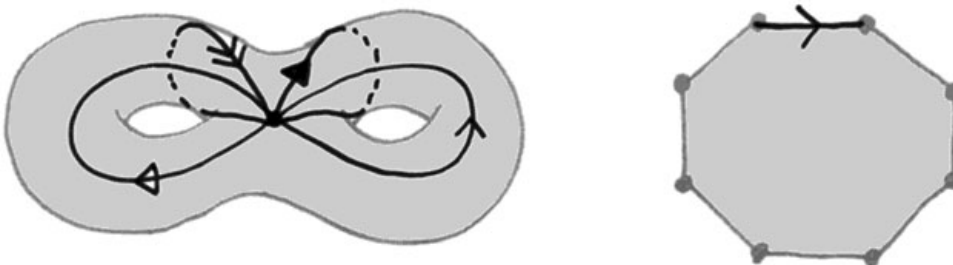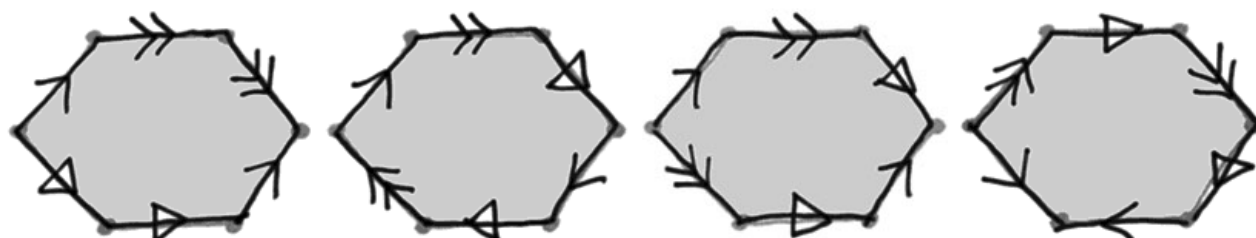

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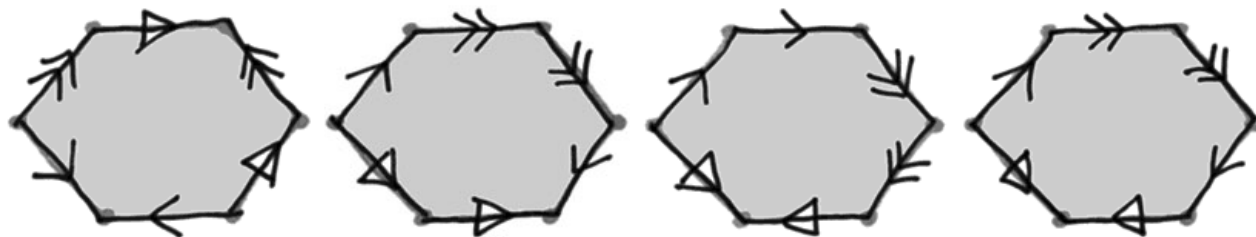
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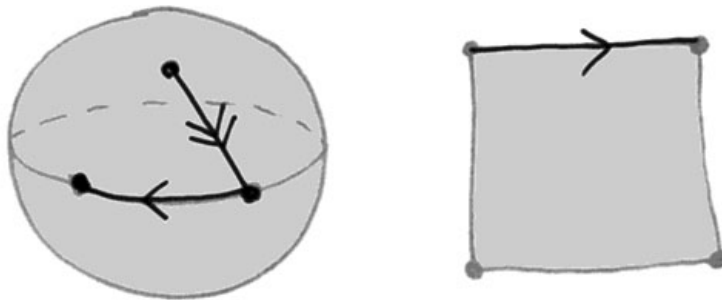
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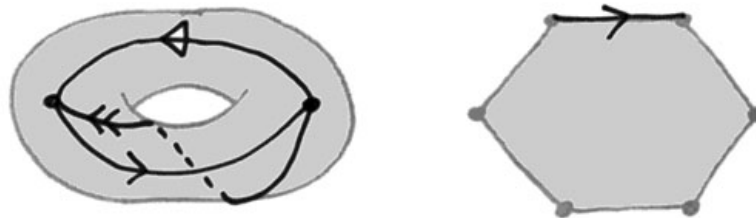
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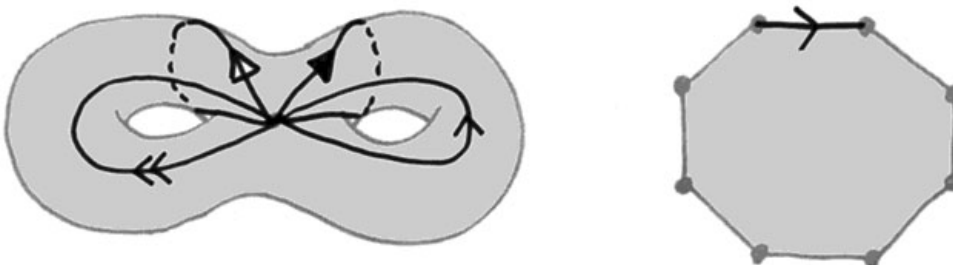

[3] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
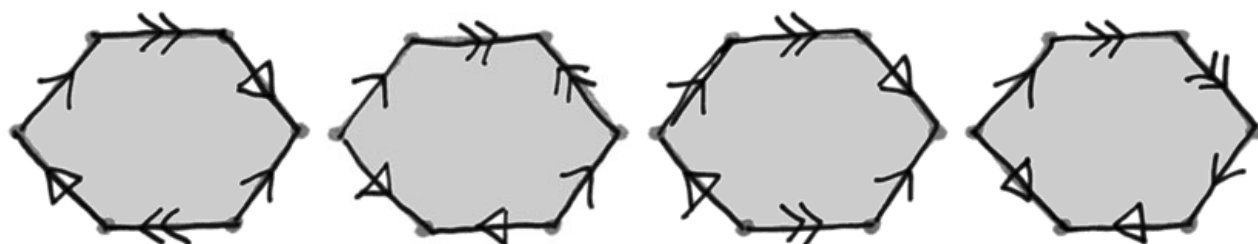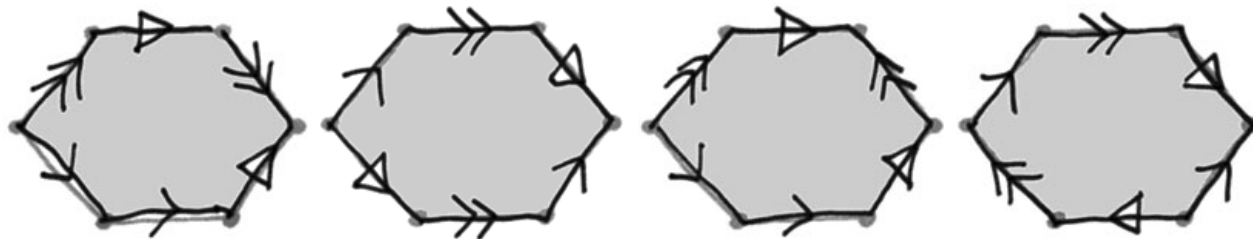
[**4**] Determine what surface each of the following gluing diagrams represents, by computing its Euler characteristic, and determining whether it is orientable or not.

[**5**] Find a pair of gluing diagrams, above, which represent the same surface. In any set of eight hexagonal gluing diagrams, why must there always be such a pair? Demonstrate that your pair represents the same surface, by modifying the diagrams until they agree.
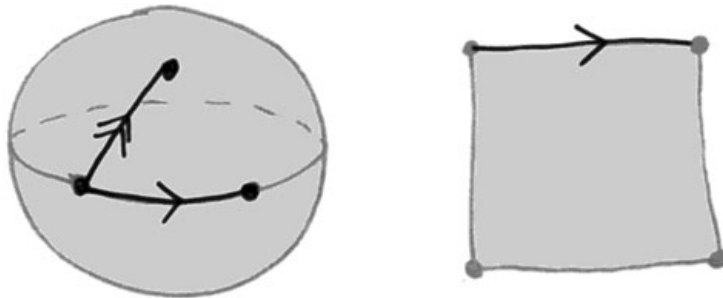
First Exam GJ

Surfaces and Knots, Dave Bayer, February 21, 2002
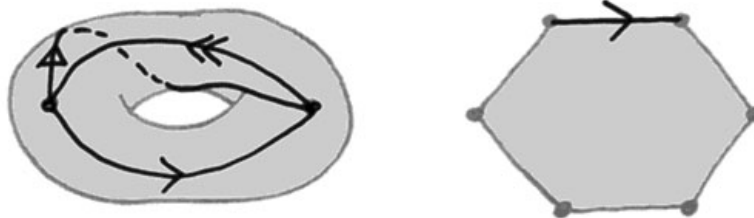
Name: _____ **School:** _____

[1]	[2]	[3]	[4]	[5]	**TOTAL**

You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.

[1] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
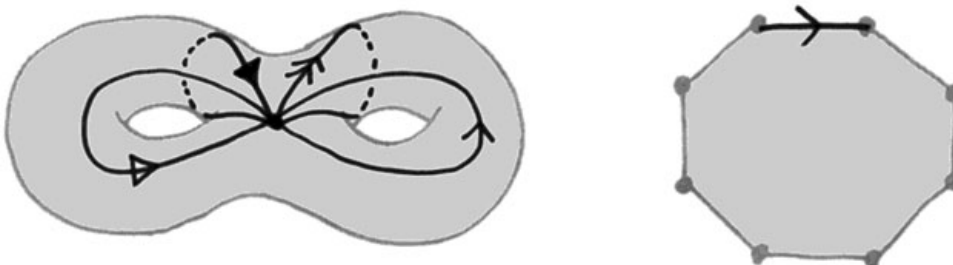

[2] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.

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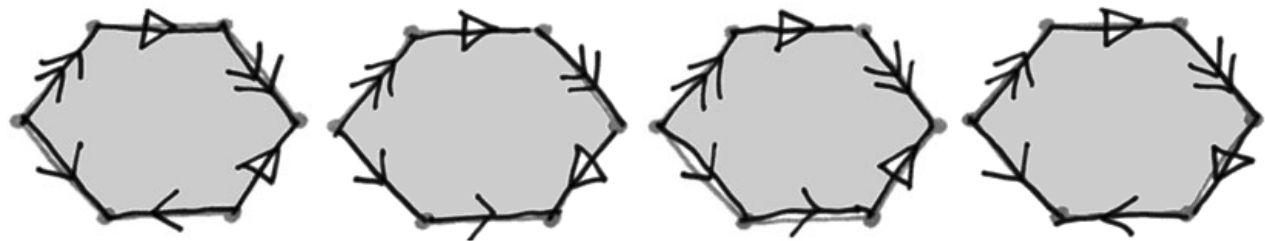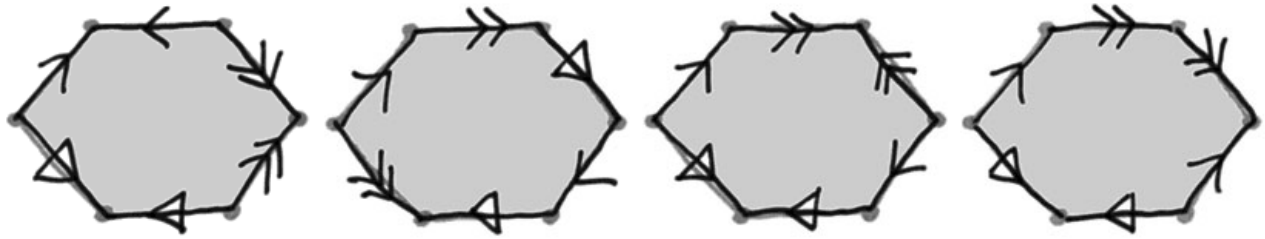
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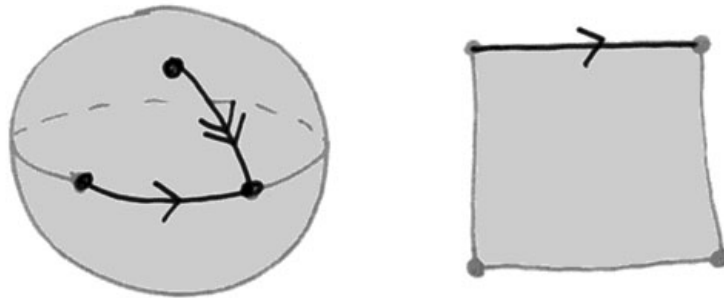
First Exam GK

Surfaces and Knots, Dave Bayer, February 21, 2002
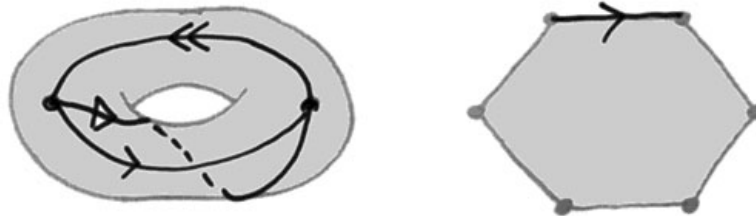
Name: _____ **School:** _____

[1]	[2]	[3]	[4]	[5]	**TOTAL**

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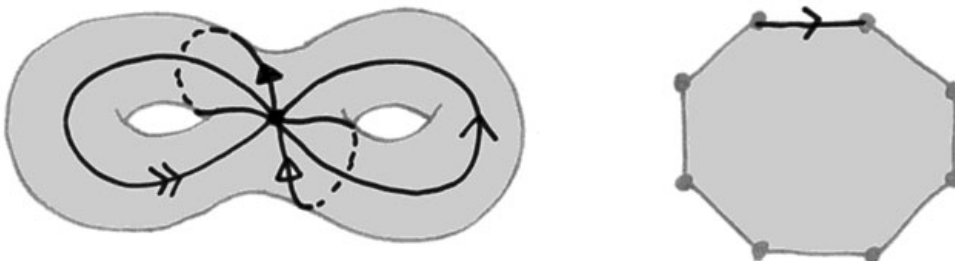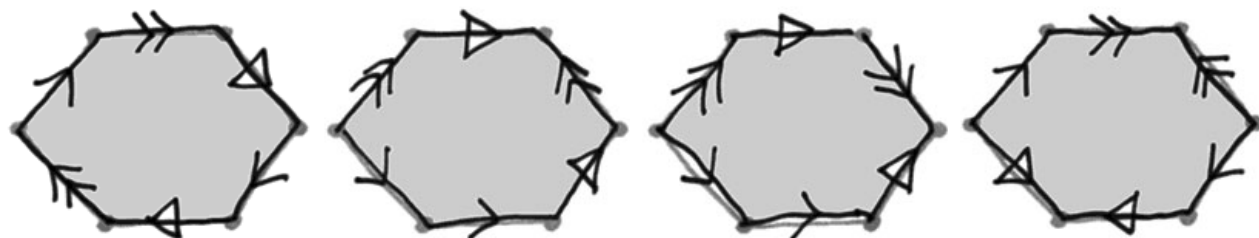

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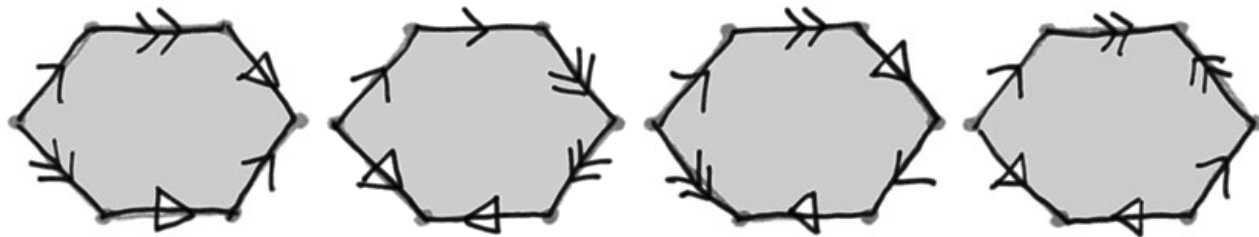
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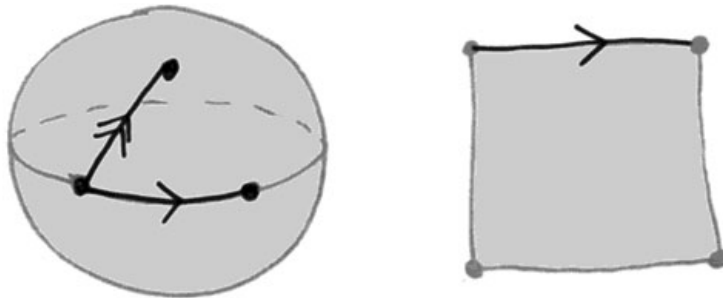
First Exam GL

Surfaces and Knots, Dave Bayer, February 21, 2002
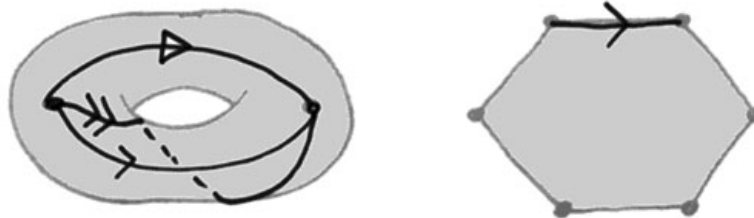
Name: _____ **School:** _____

[1]	**[2]**	**[3]**	**[4]**	**[5]**	**TOTAL**

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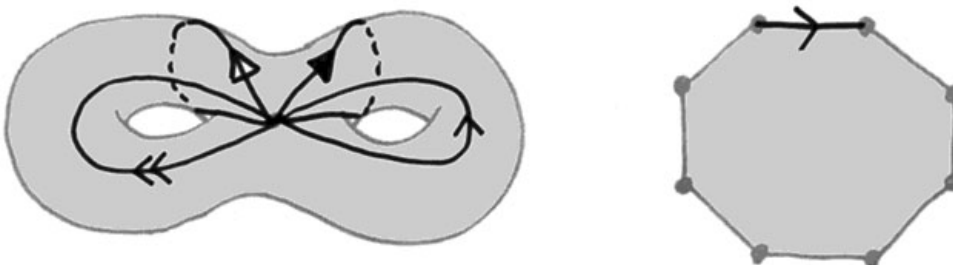
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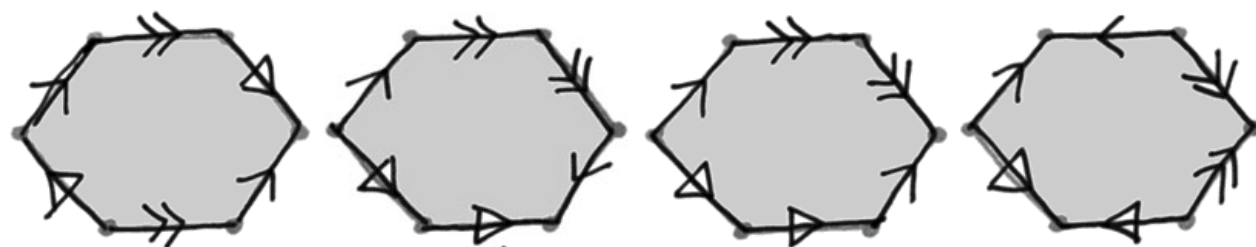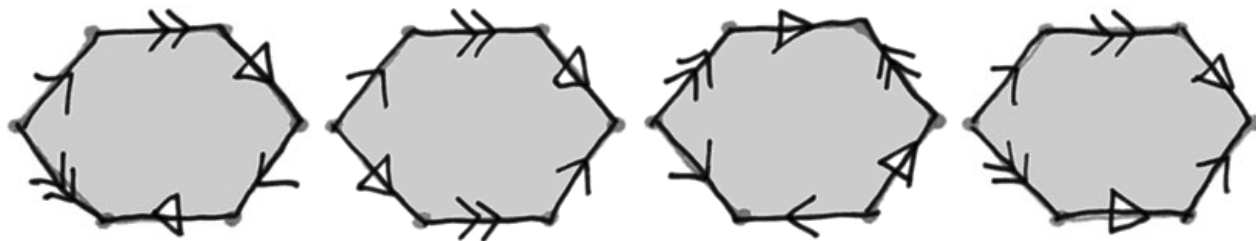
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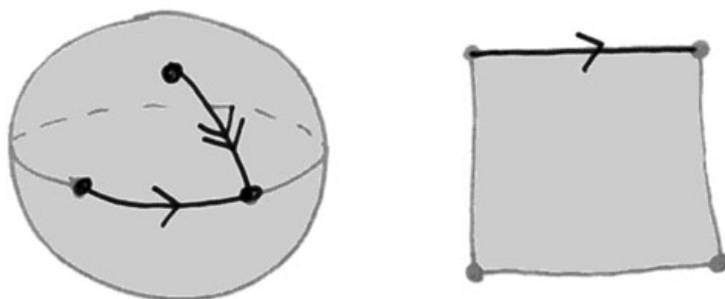
First Exam GM

Surfaces and Knots, Dave Bayer, February 21, 2002
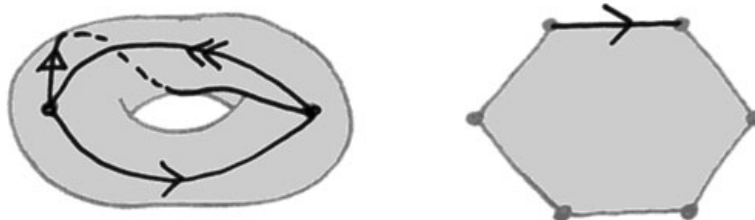
Name: _____ **School:** _____

[1]	**[2]**	**[3]**	**[4]**	**[5]**	**TOTAL**

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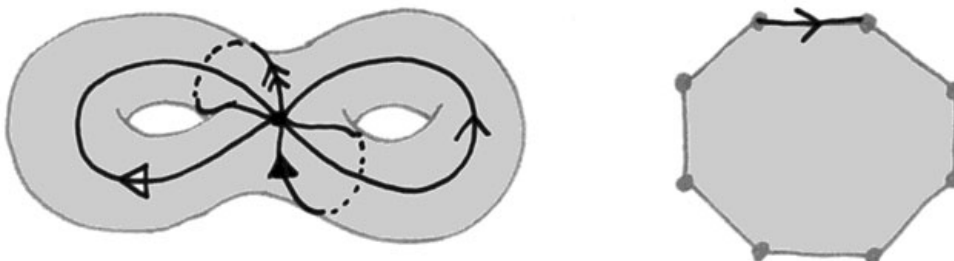

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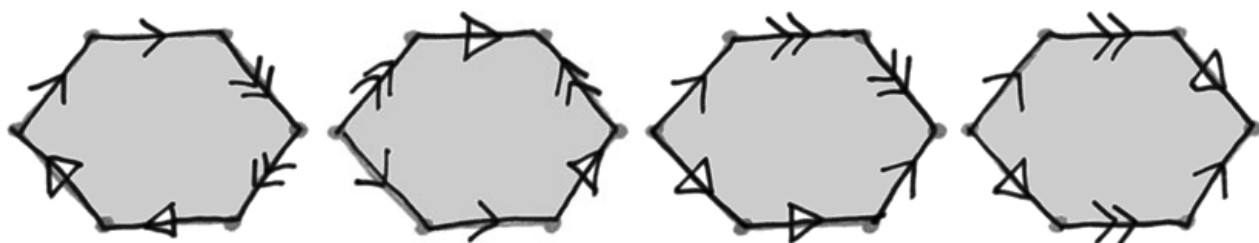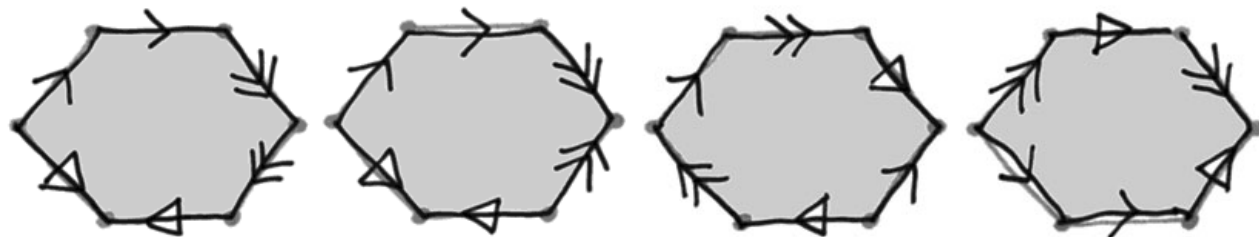
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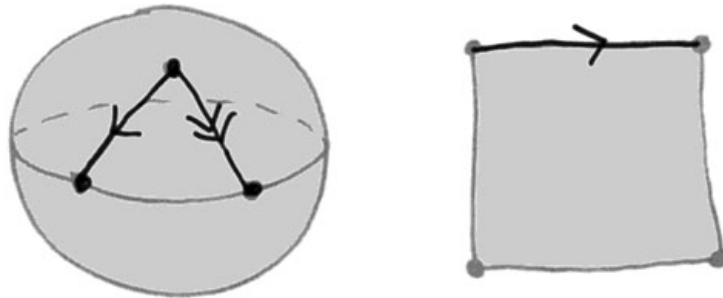
First Exam GN
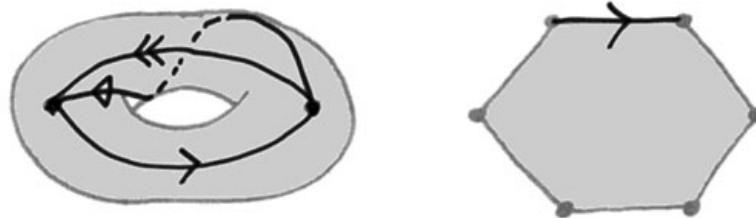
Surfaces and Knots, Dave Bayer, February 21, 2002

Name: ——————————————— **School:** —————

[1]	[2]	[3]	[4]	[5]	TOTAL

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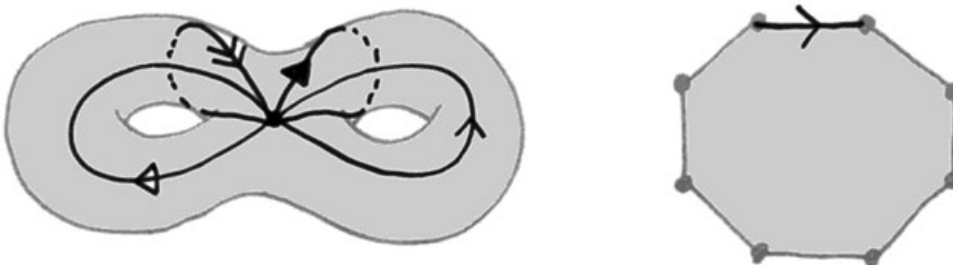

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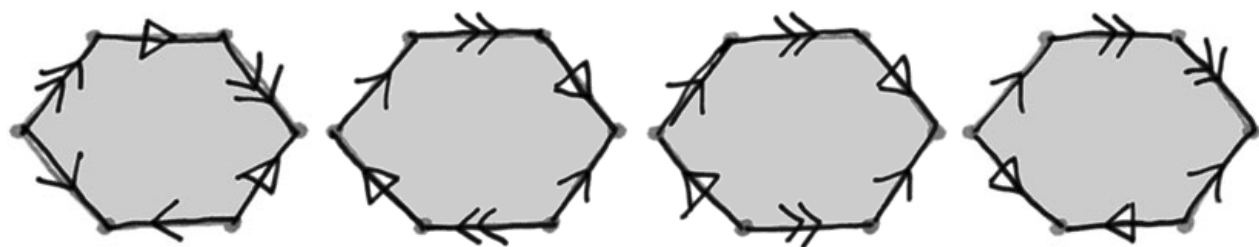

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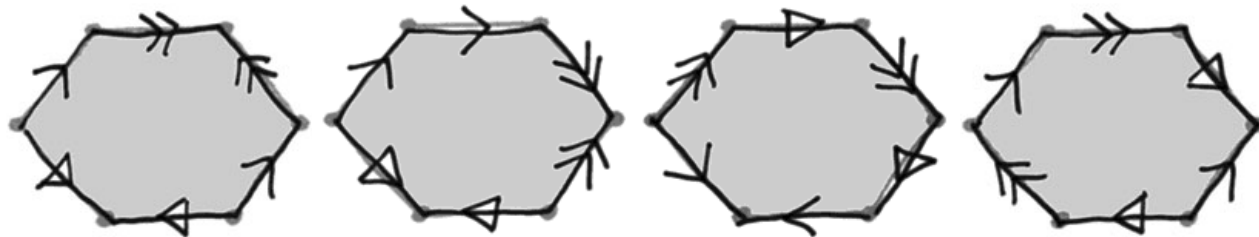
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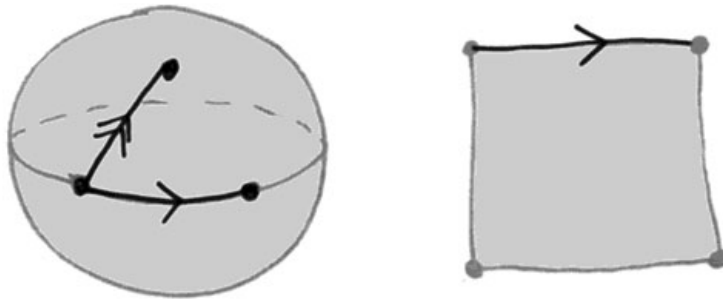
First Exam HA

Surfaces and Knots, Dave Bayer, February 21, 2002

Name: _____   **School:** _____

[1]	[2]	[3]	[4]	[5]	**TOTAL**

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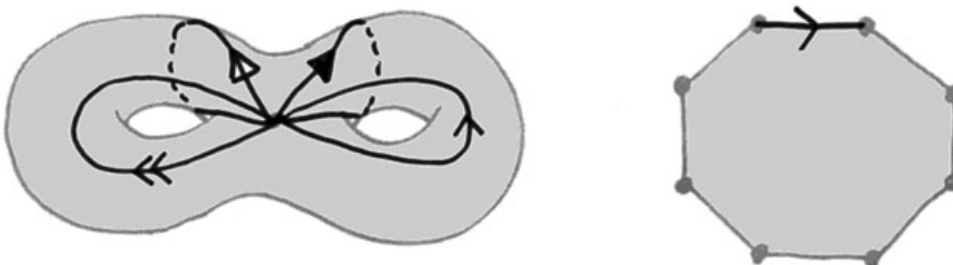

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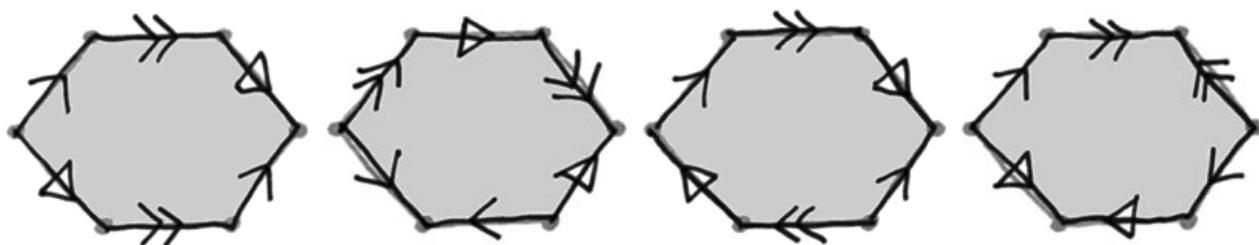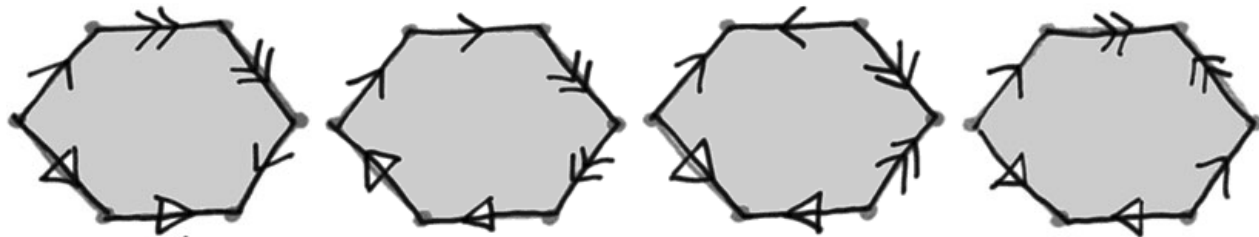
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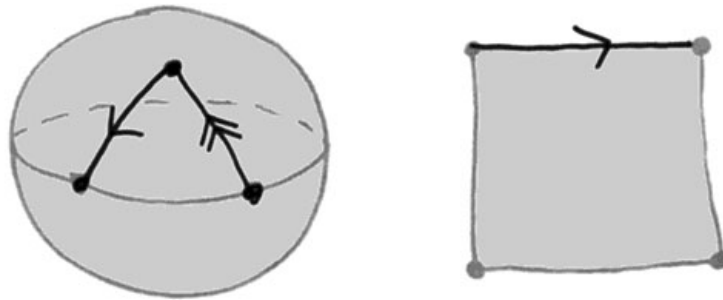
First Exam HB

Surfaces and Knots, Dave Bayer, February 21, 2002
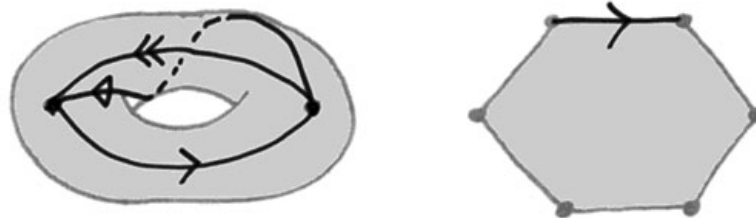
Name: _____ **School:** _____

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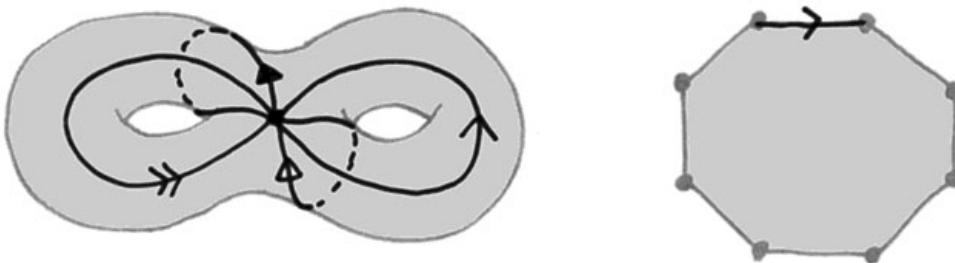[2] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
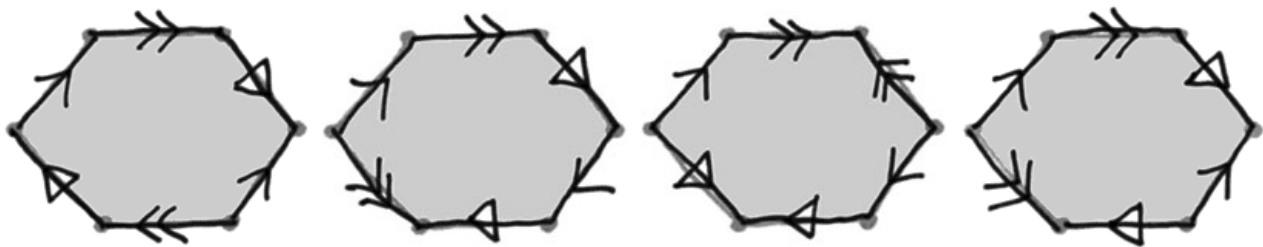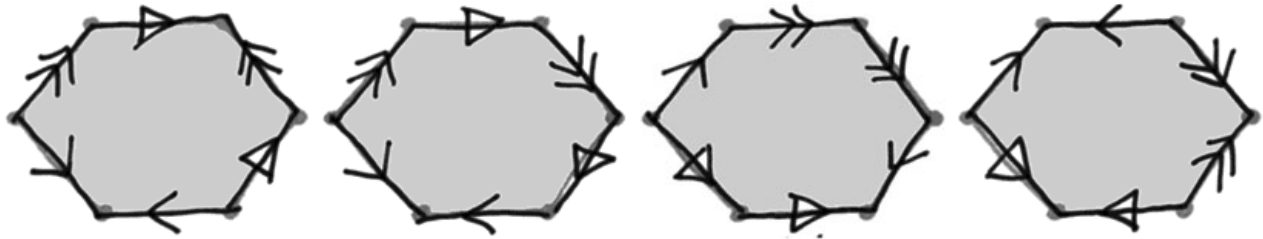
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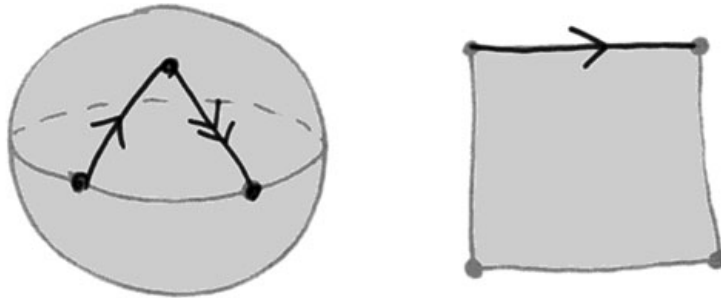
First Exam HC
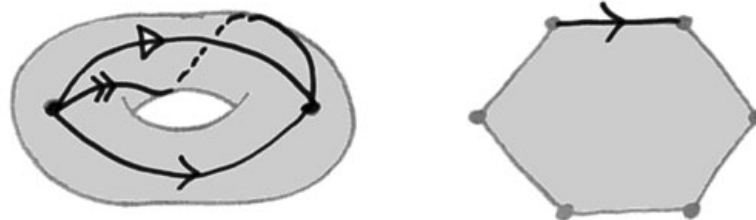
Surfaces and Knots, Dave Bayer, February 21, 2002

Name: ———————————————————— **School:** —————————

[1]	**[2]**	**[3]**	**[4]**	**[5]**	**TOTAL**

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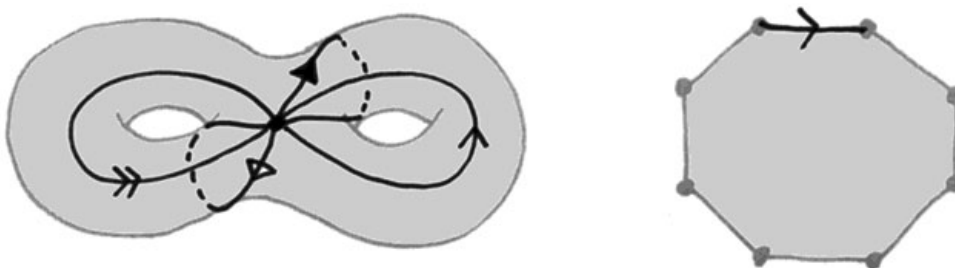

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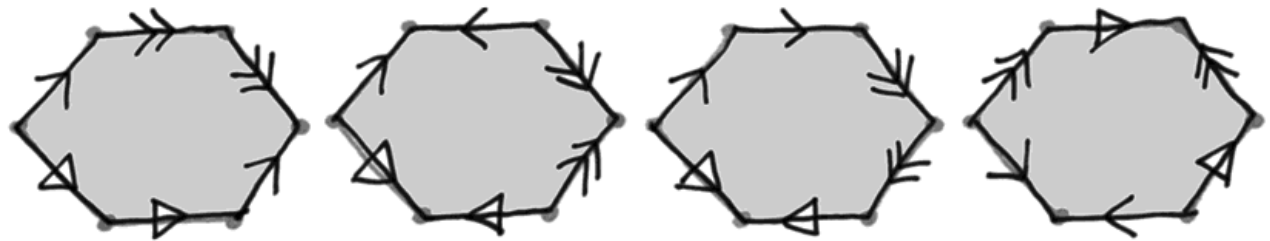

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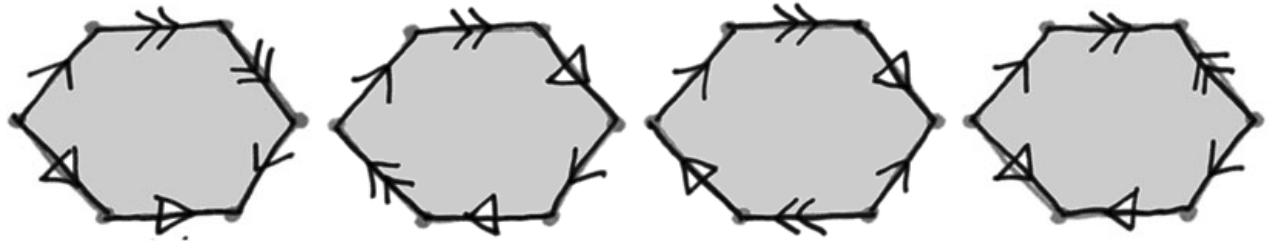
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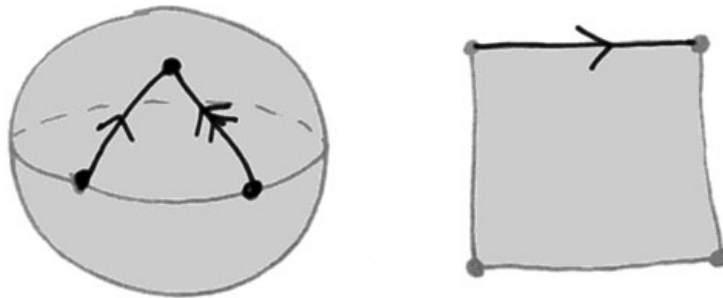
First Exam HD
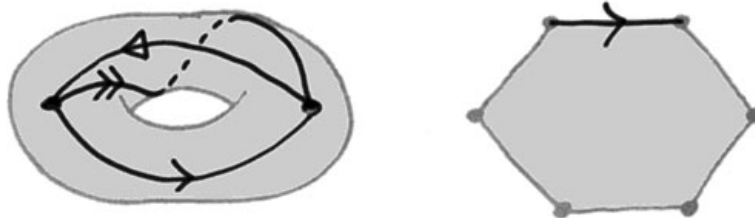
Surfaces and Knots, Dave Bayer, February 21, 2002

Name: ─────────────────────────── **School:** ──────────

[1]	**[2]**	**[3]**	**[4]**	**[5]**	**TOTAL**

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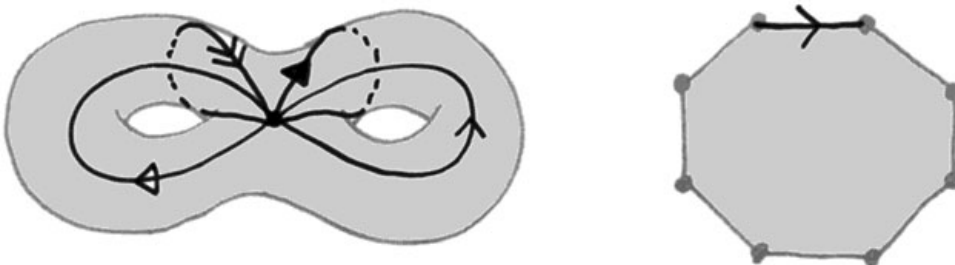
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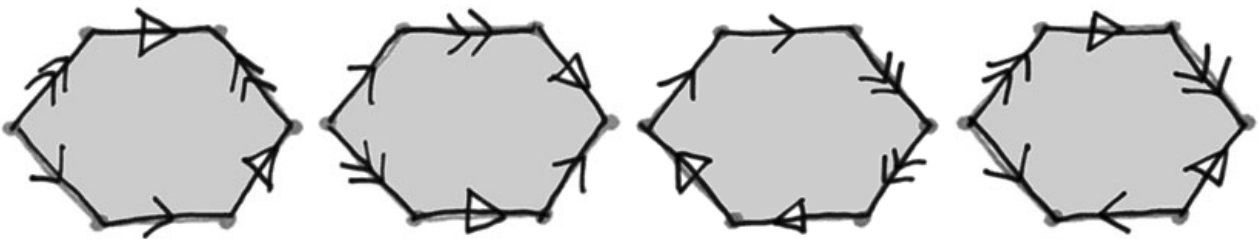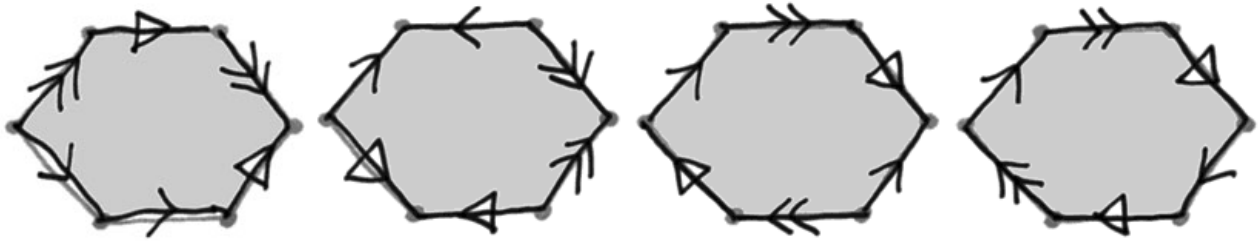
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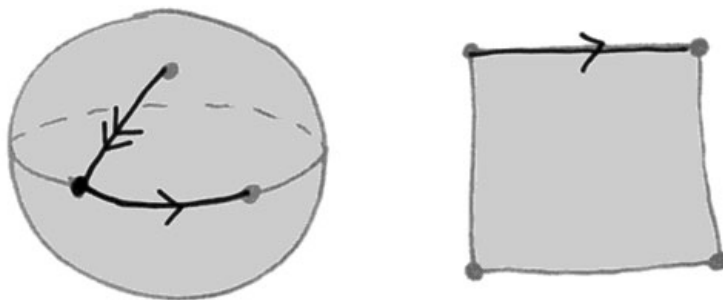
First Exam HE

Surfaces and Knots, Dave Bayer, February 21, 2002
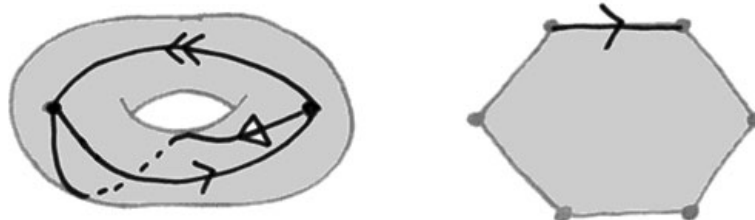
Name: _____ **School:** _____

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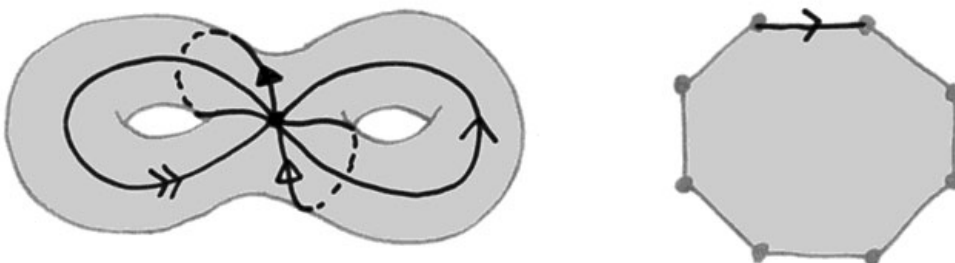

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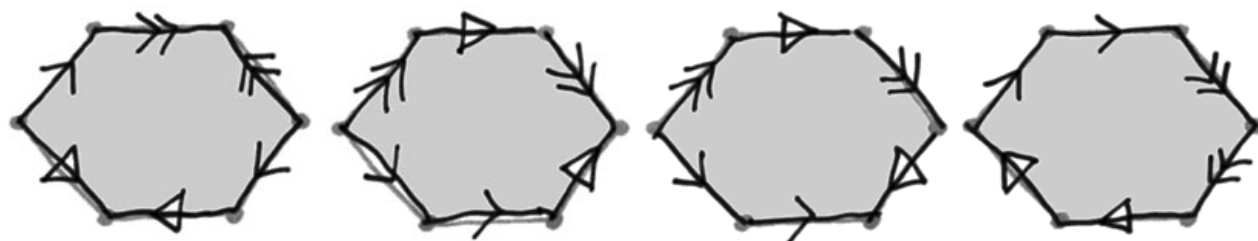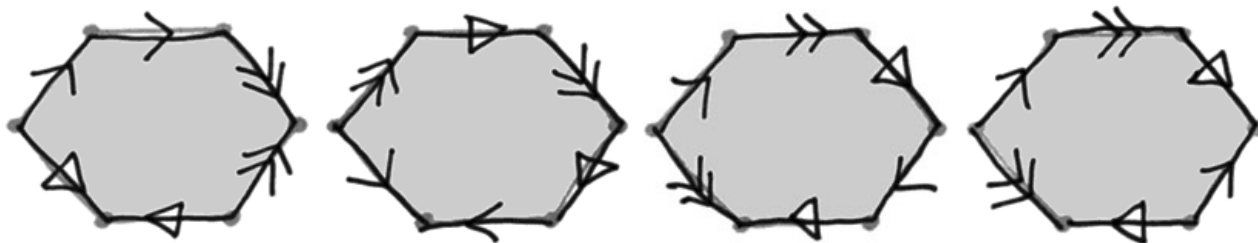
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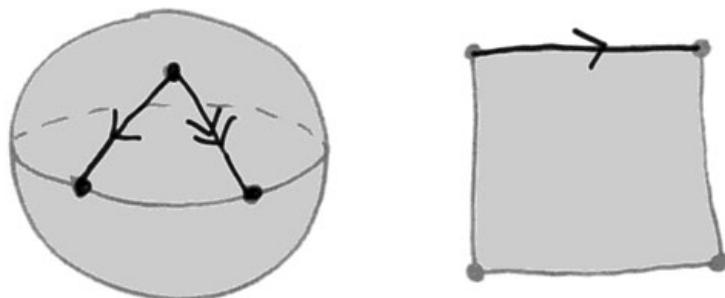
First Exam HF
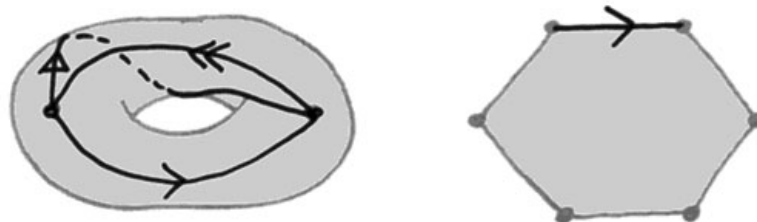
Surfaces and Knots, Dave Bayer, February 21, 2002

Name: ──────────────────────────────── **School:** ──────────

[1]	**[2]**	**[3]**	**[4]**	**[5]**	**TOTAL**

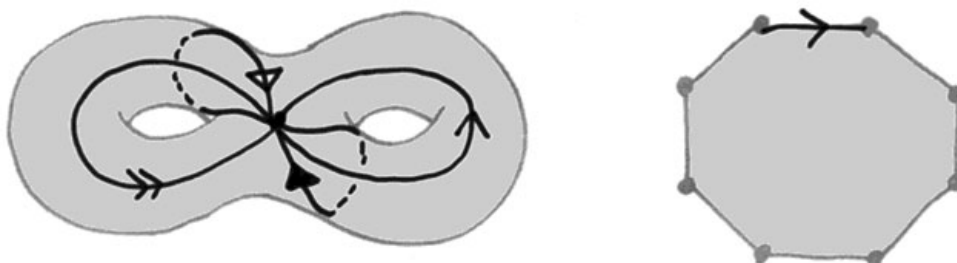You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.

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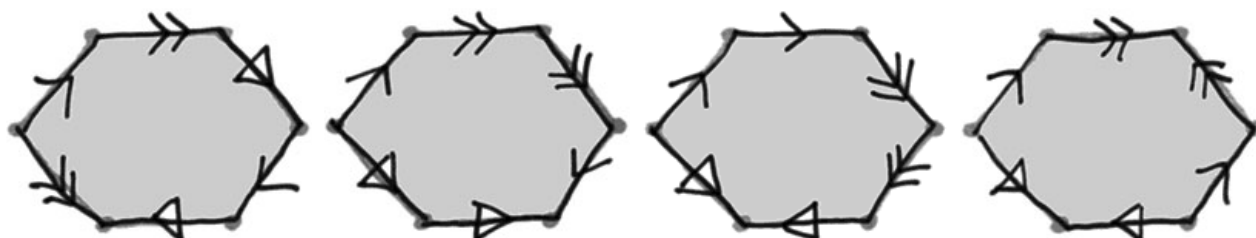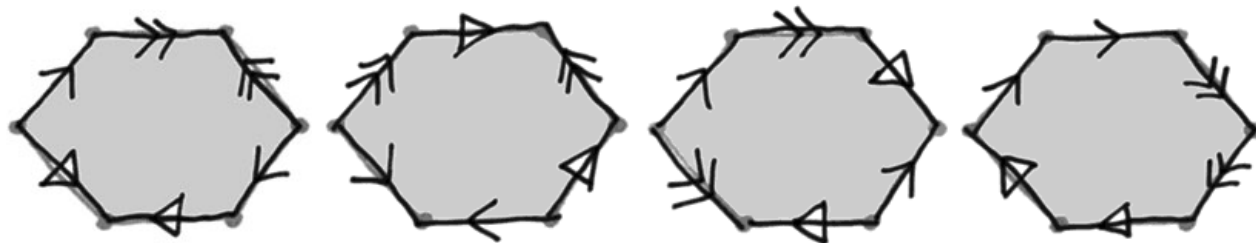
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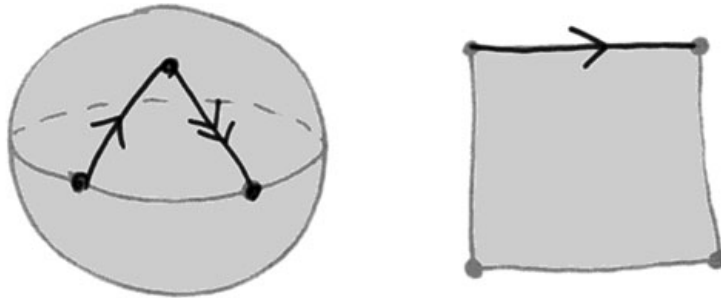
First Exam HG
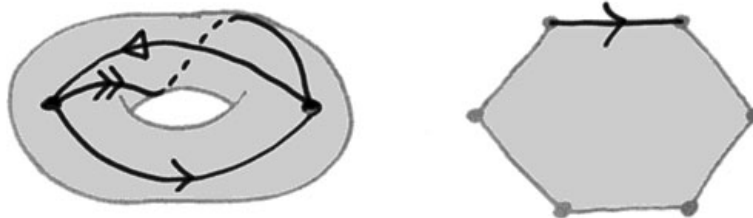
Surfaces and Knots, Dave Bayer, February 21, 2002

Name: ——————————————————————— **School:** ——————————

[1]	[2]	[3]	[4]	[5]	TOTAL

You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.
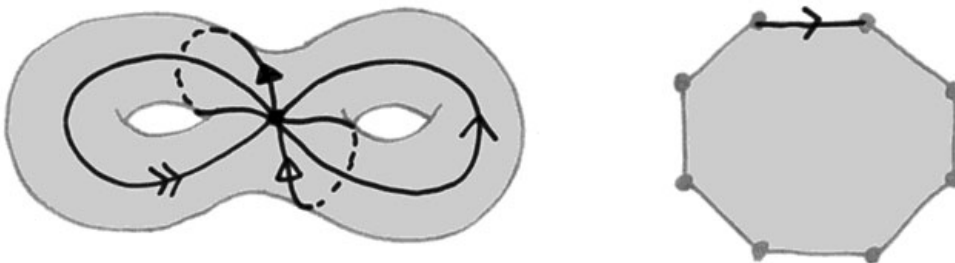
[1] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.

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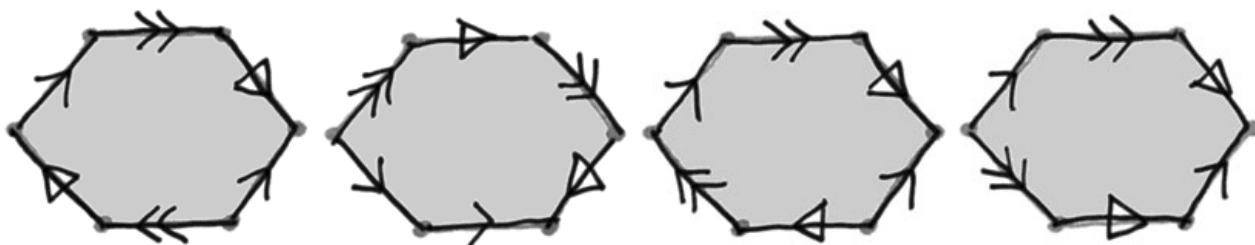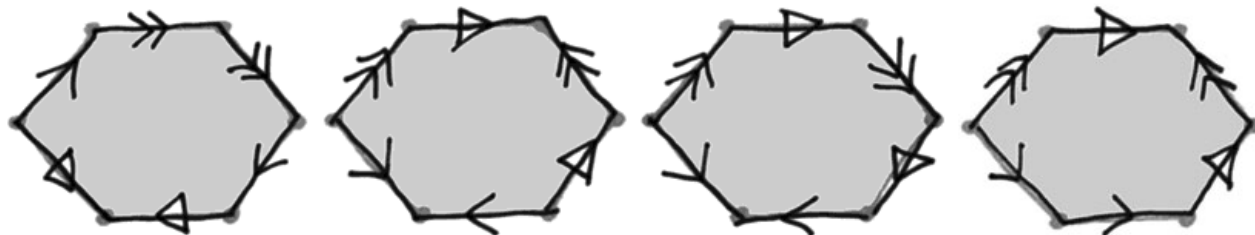
[4] Determine what surface each of the following gluing diagrams represents, by computing its Euler characteristic, and determining whether it is orientable or not.

[5] Find a pair of gluing diagrams, above, which represent the same surface. In any set of eight hexagonal gluing diagrams, why must there always be such a pair? Demonstrate that your pair represents the same surface, by modifying the diagrams until they agree.
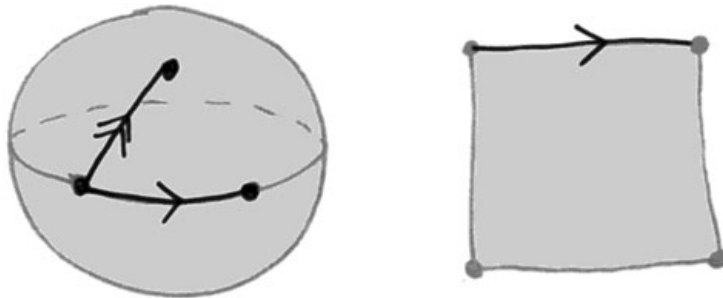
First Exam HH
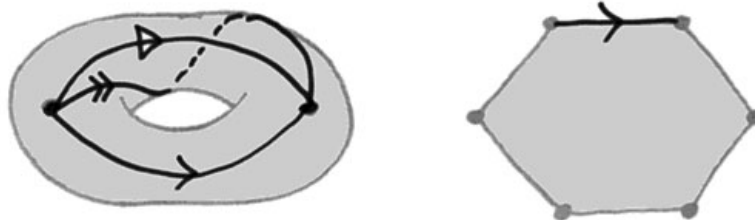
Surfaces and Knots, Dave Bayer, February 21, 2002

Name: ——————————————————— **School:** ——————

[1]	[2]	[3]	[4]	[5]	**TOTAL**

   You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.
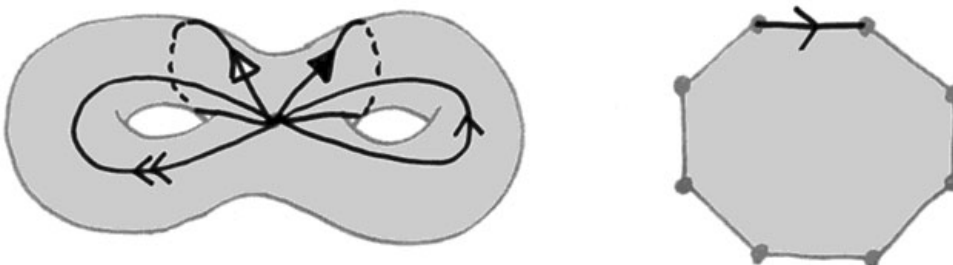
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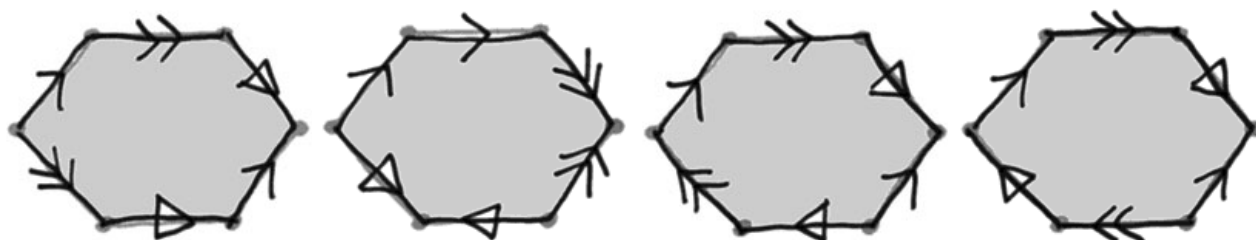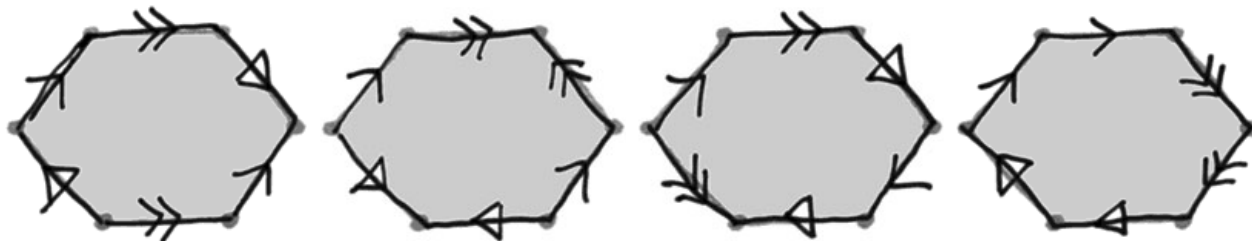

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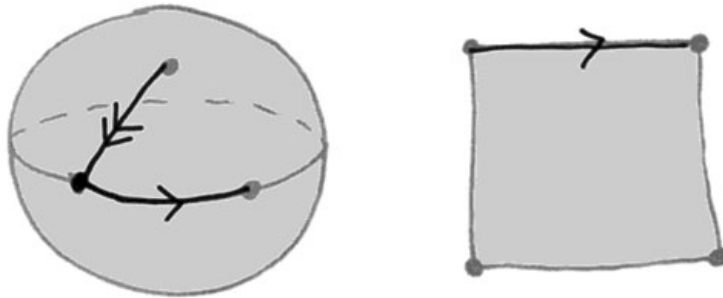
First Exam HI

Surfaces and Knots, Dave Bayer, February 21, 2002
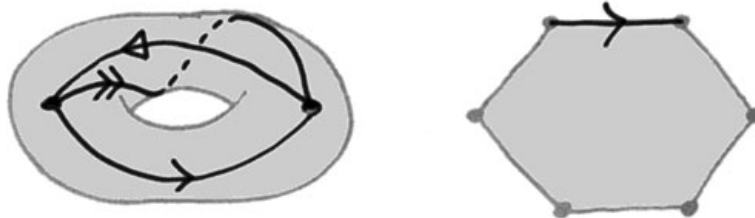
Name: _____ **School:** _____

[1]	**[2]**	**[3]**	**[4]**	**[5]**	**TOTAL**

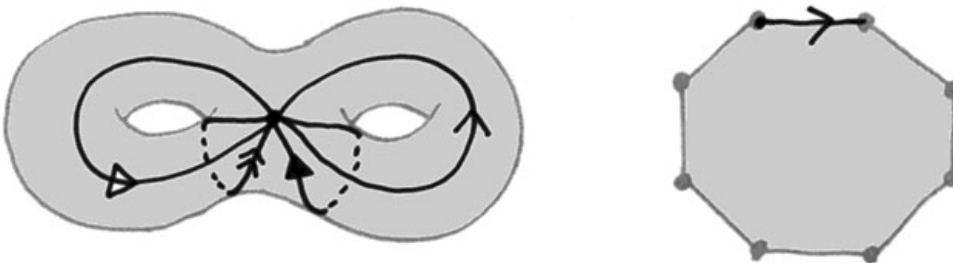You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.

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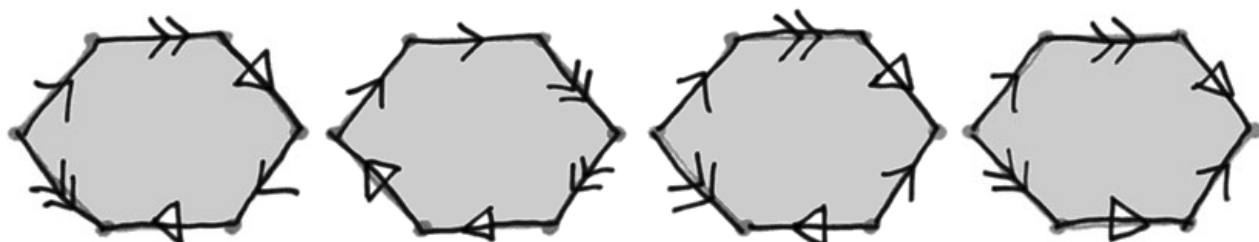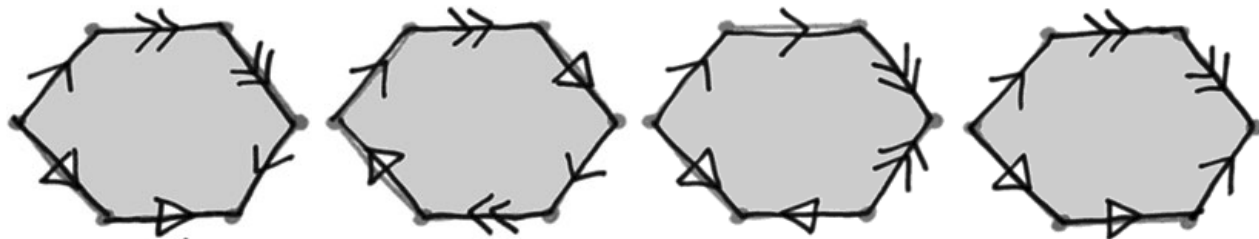
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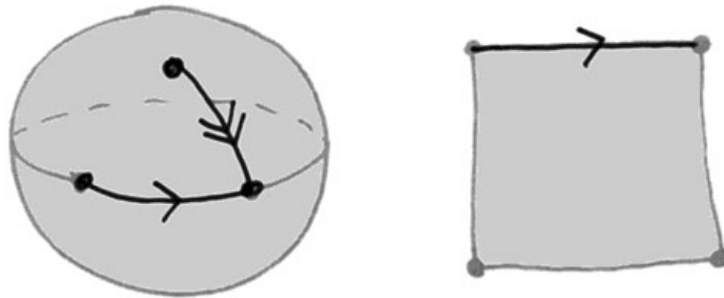
First Exam HJ
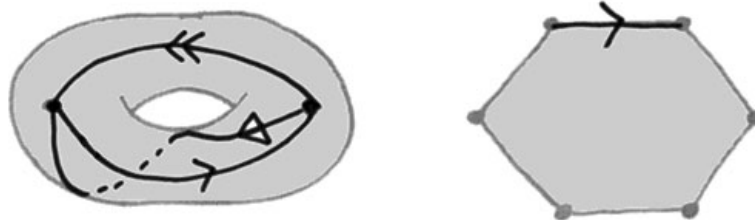
Surfaces and Knots, Dave Bayer, February 21, 2002

Name: ⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯ **School:** ⎯⎯⎯⎯⎯⎯⎯⎯⎯

[1]	**[2]**	**[3]**	**[4]**	**[5]**	**TOTAL**

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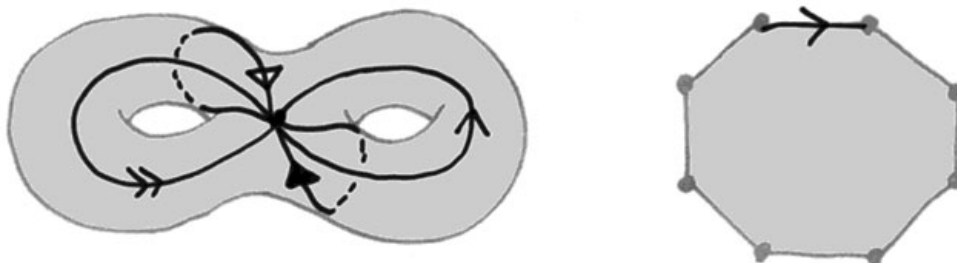

[2] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
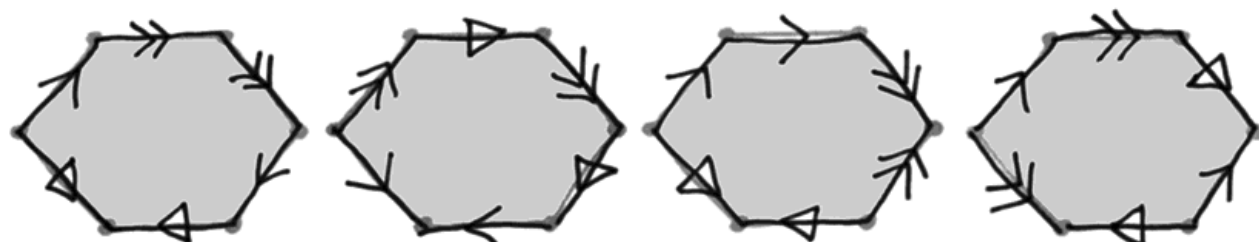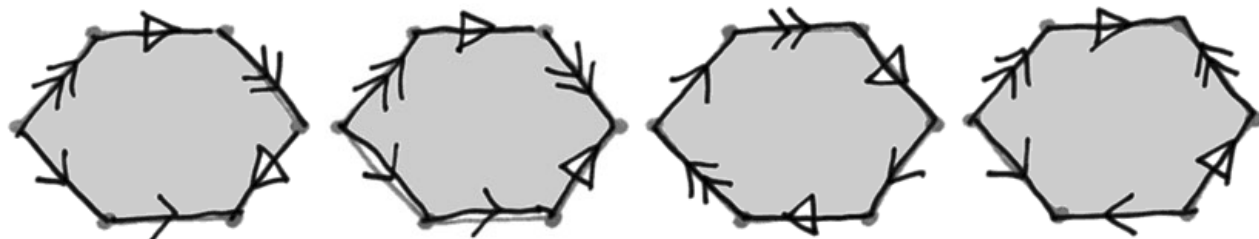

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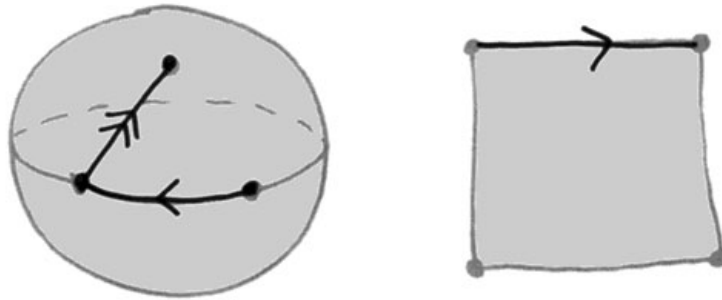
First Exam HK

Surfaces and Knots, Dave Bayer, February 21, 2002
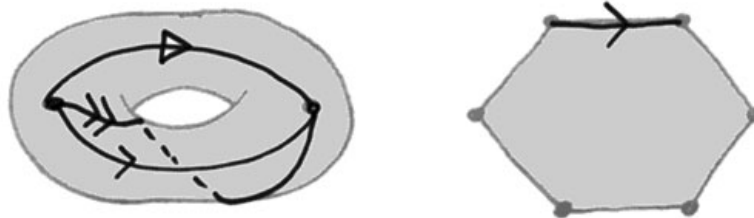
Name: _____ **School:** _____

[1]	[2]	[3]	[4]	[5]	**TOTAL**

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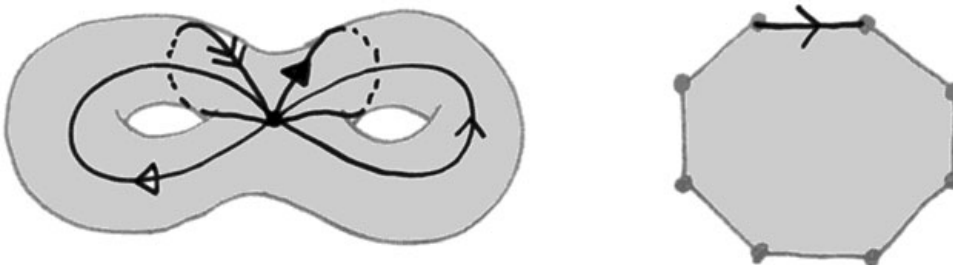

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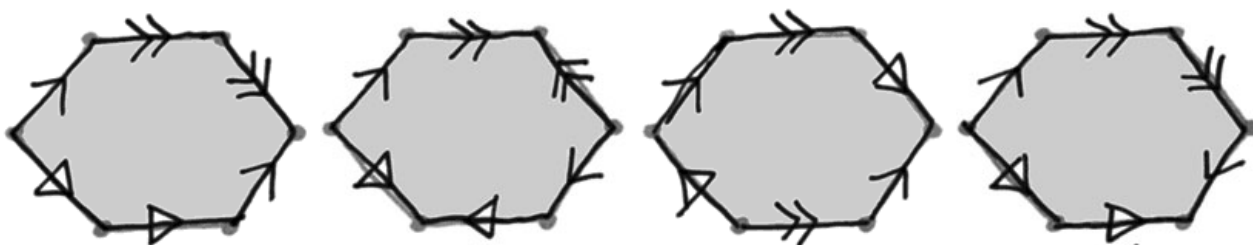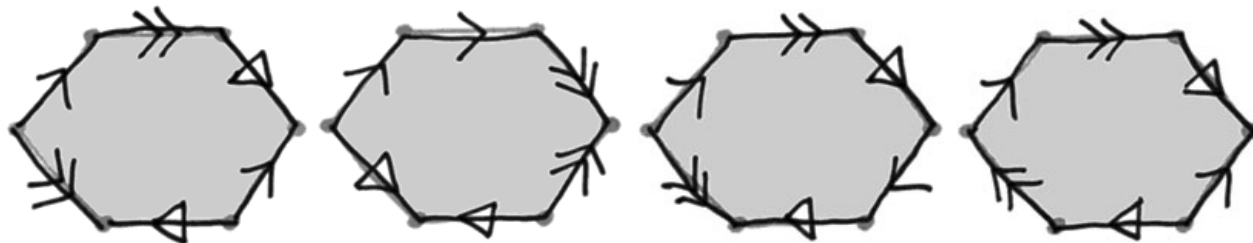
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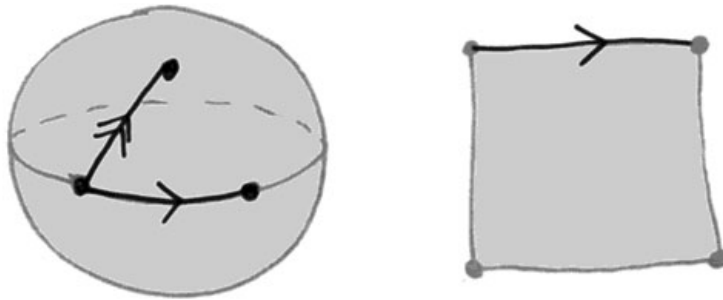
First Exam HL
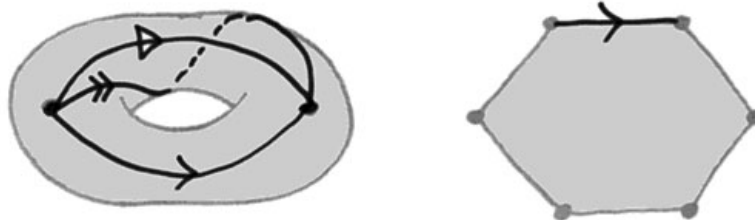
Surfaces and Knots, Dave Bayer, February 21, 2002

Name: ─────────────────────── **School:** ──────────

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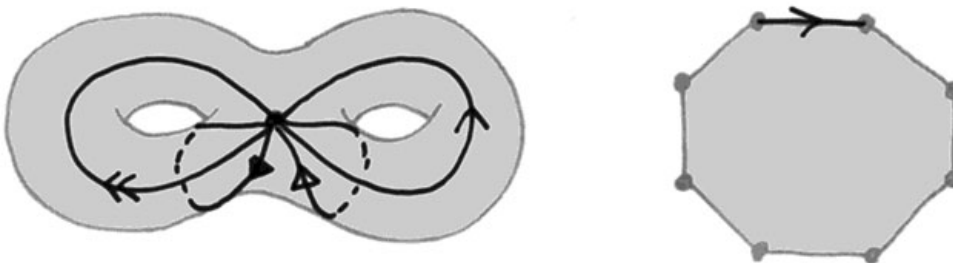

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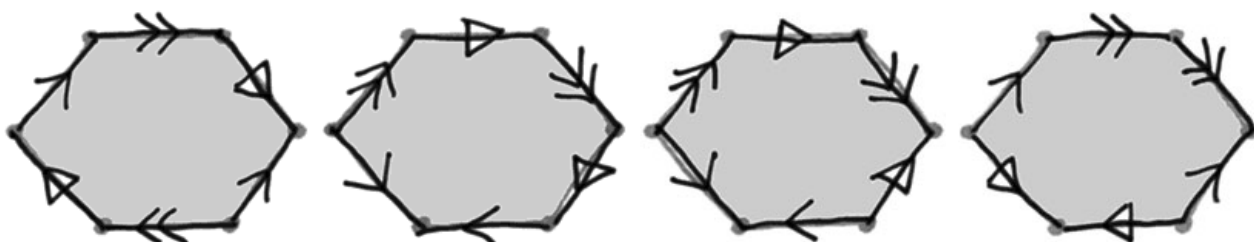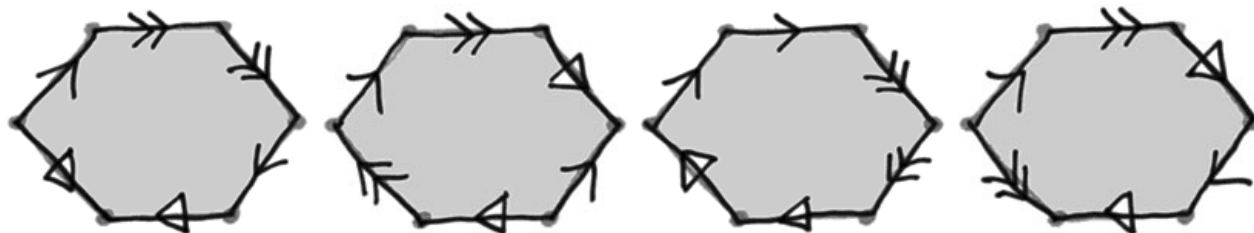
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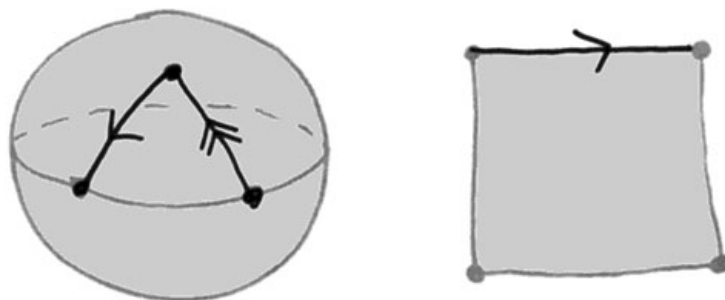
First Exam HM

Surfaces and Knots, Dave Bayer, February 21, 2002
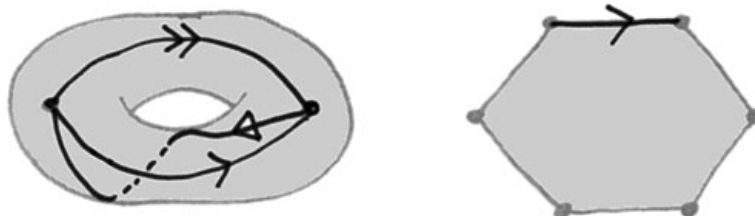
Name: _____   **School:** _____

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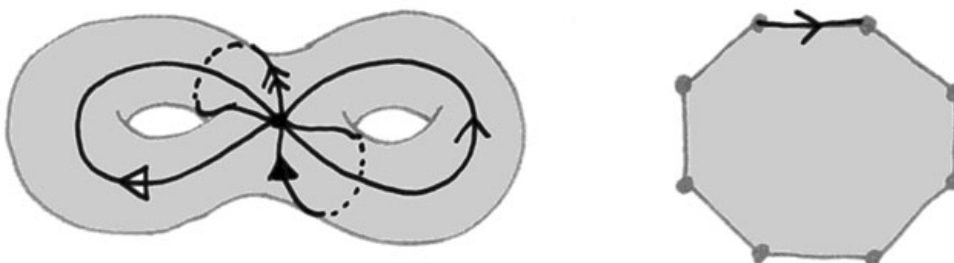**[2]** Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
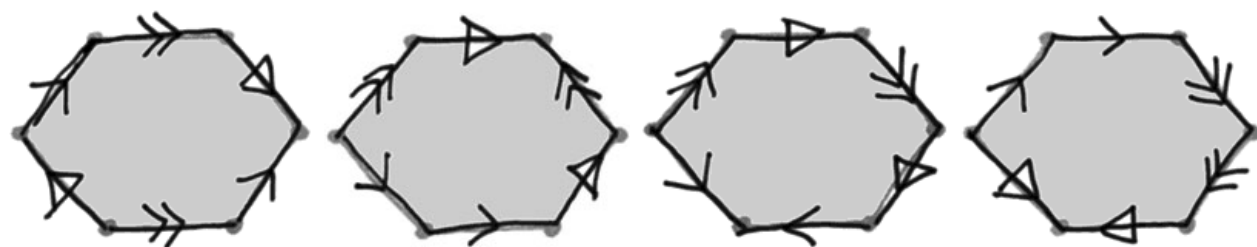

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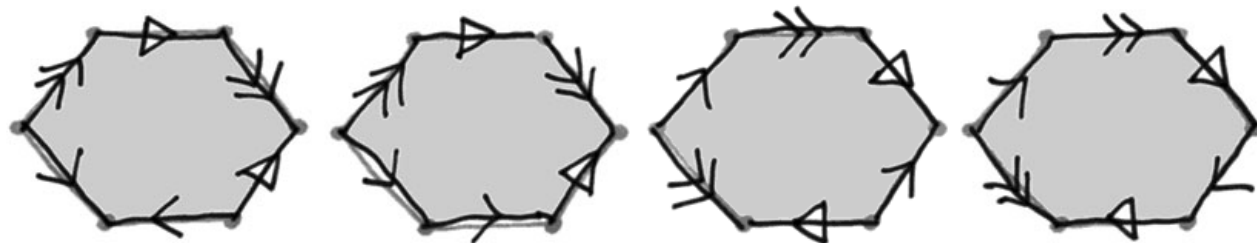
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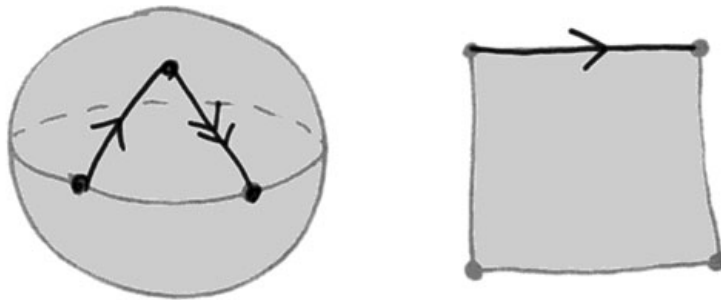
First Exam HN

Surfaces and Knots, Dave Bayer, February 21, 2002
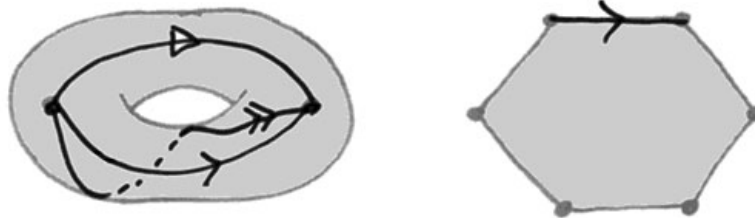
Name: _____ **School:** _____

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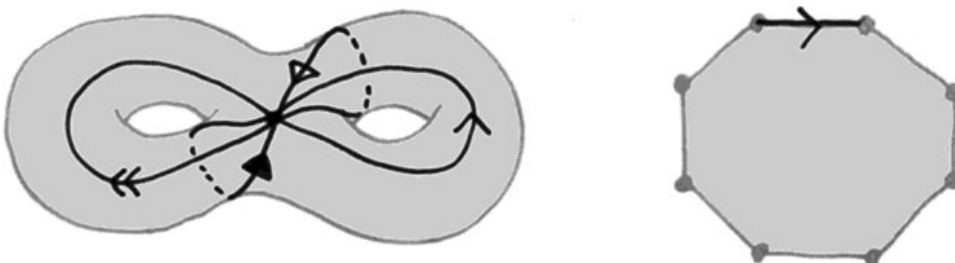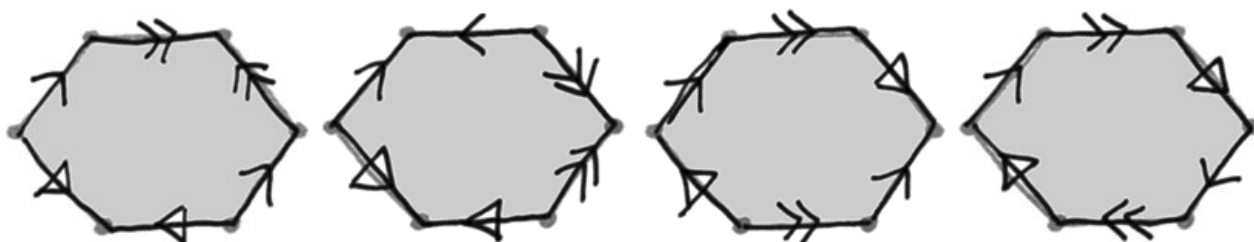
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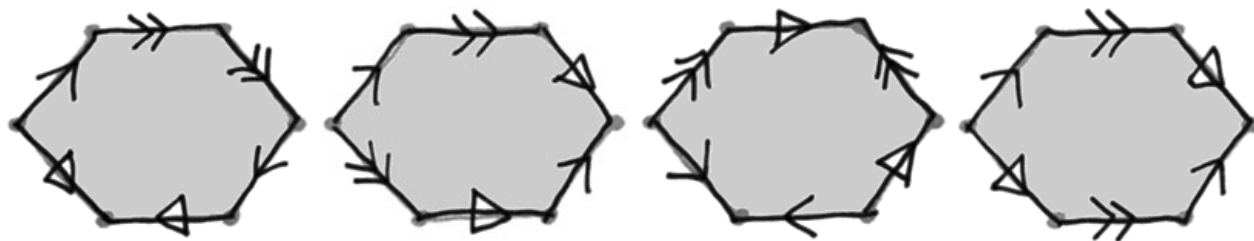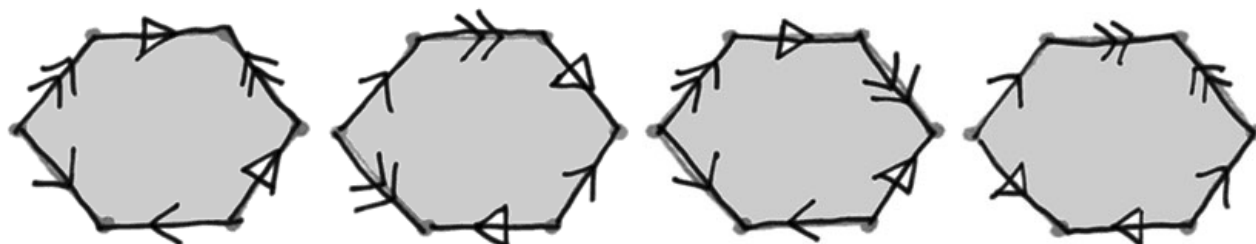
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First Exam IA

Surfaces and Knots, Dave Bayer, February 21, 2002

Name: _____   **School:** _____

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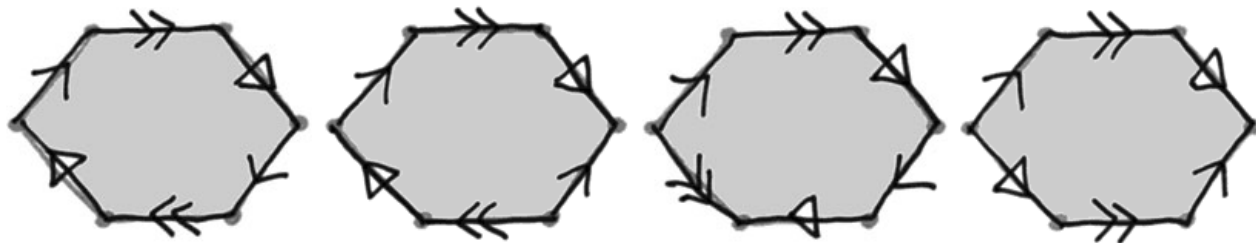

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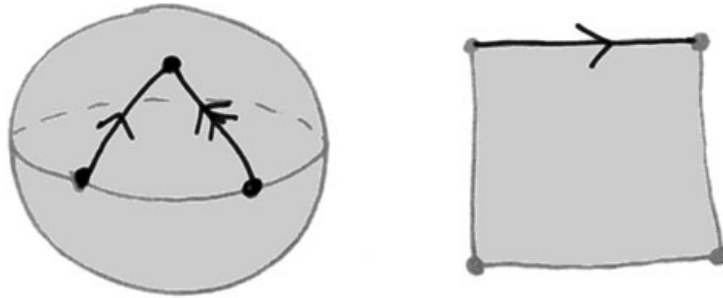
First Exam IB

Surfaces and Knots, Dave Bayer, February 21, 2002
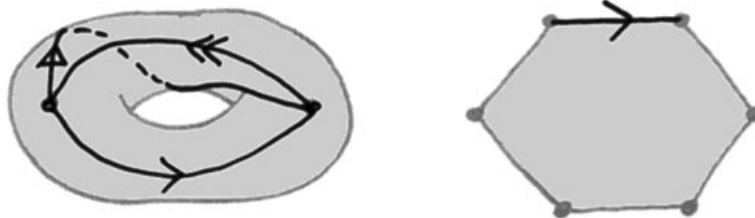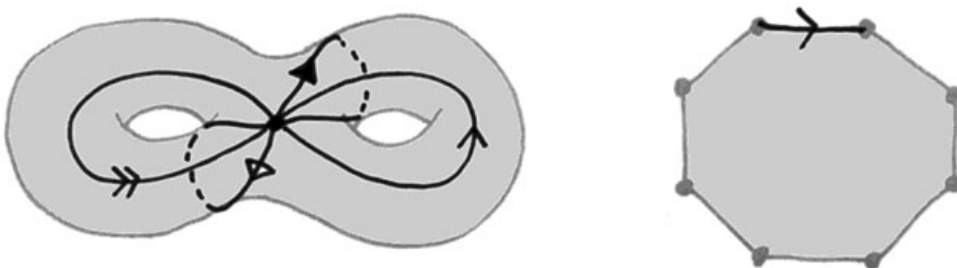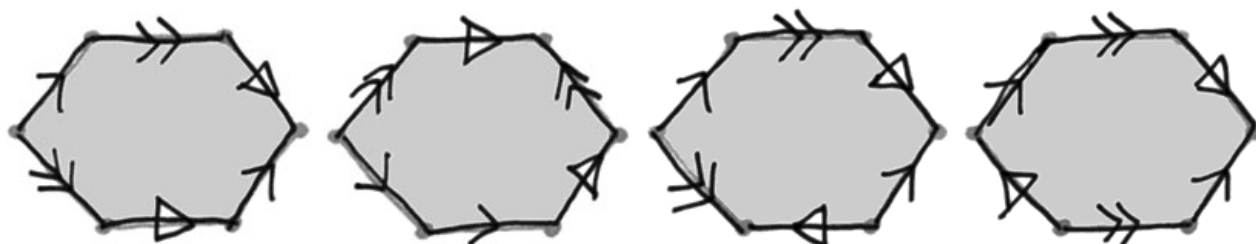
Name: _____ **School:** _____

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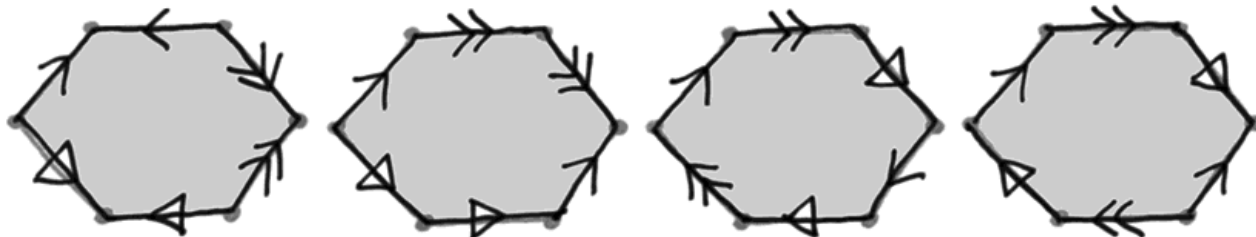

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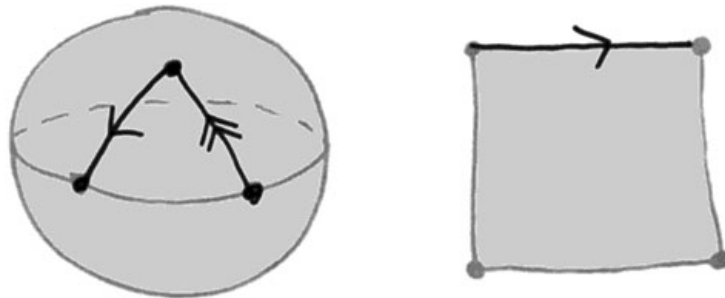
First Exam IC

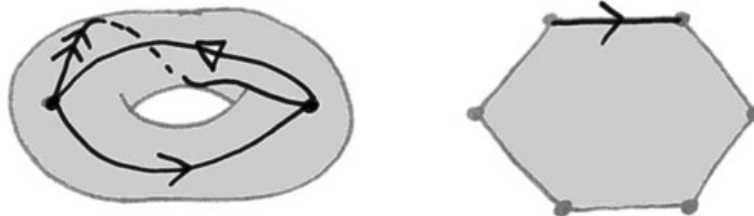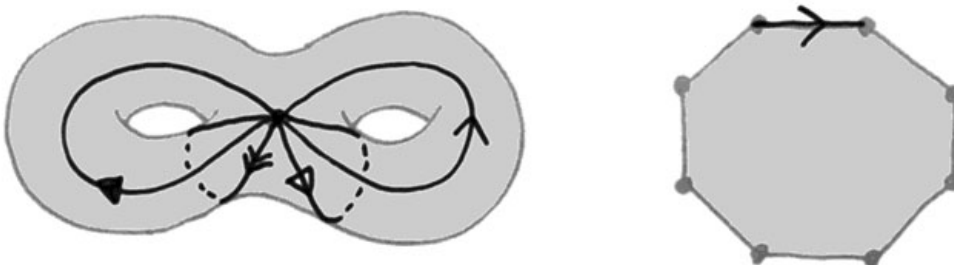Surfaces and Knots, Dave Bayer, February 21, 2002

Name: _____ **School:** _____

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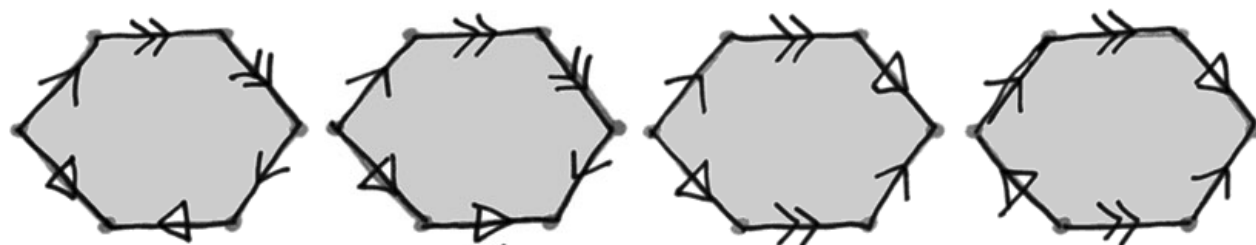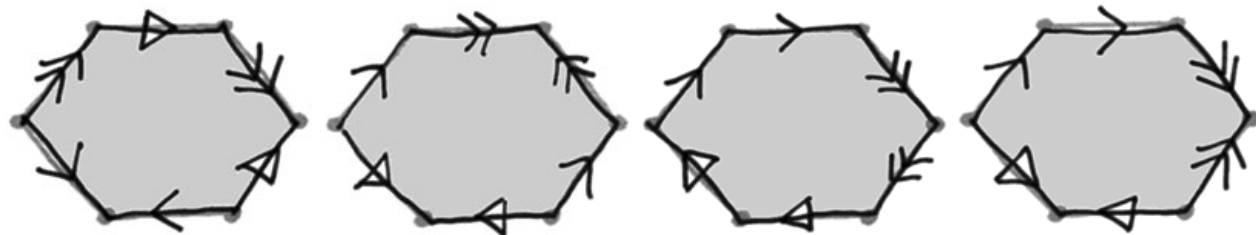
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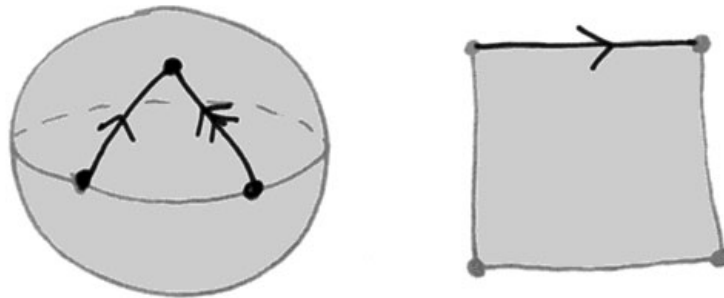
First Exam ID

Surfaces and Knots, Dave Bayer, February 21, 2002

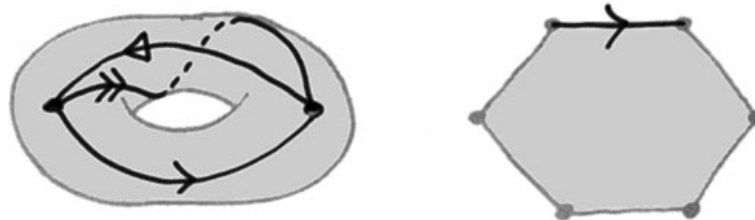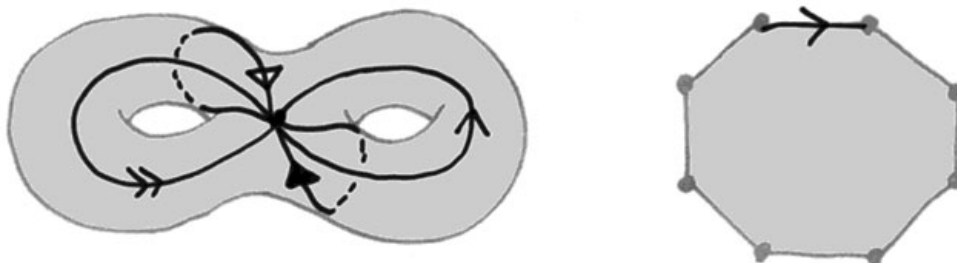**Name:** ⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯ **School:** ⎯⎯⎯⎯⎯⎯⎯

[1]	**[2]**	**[3]**	**[4]**	**[5]**	**TOTAL**

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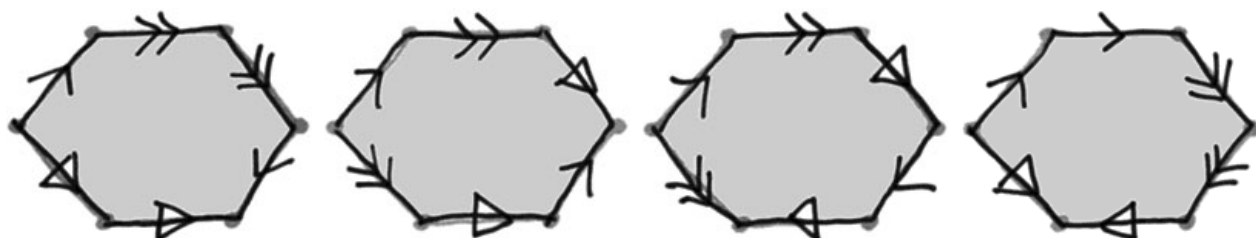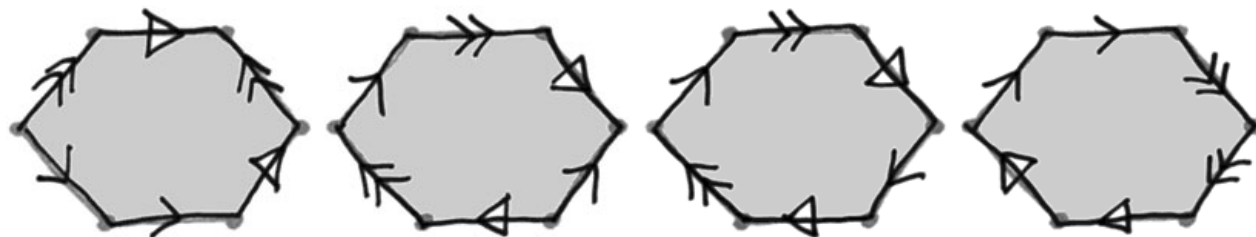

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[**5**] Find a pair of gluing diagrams, above, which represent the same surface. In any set of eight hexagonal gluing diagrams, why must there always be such a pair? Demonstrate that your pair represents the same surface, by modifying the diagrams until they agree.
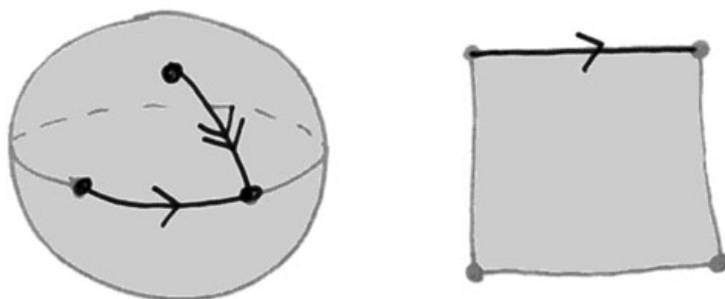
First Exam IE

Surfaces and Knots, Dave Bayer, February 21, 2002

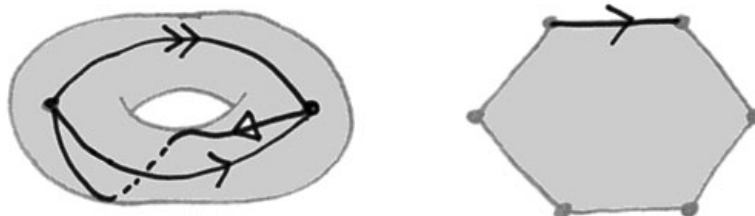**Name:** ———————————————————— **School:** —————

[1]	[2]	[3]	[4]	[5]	**TOTAL**

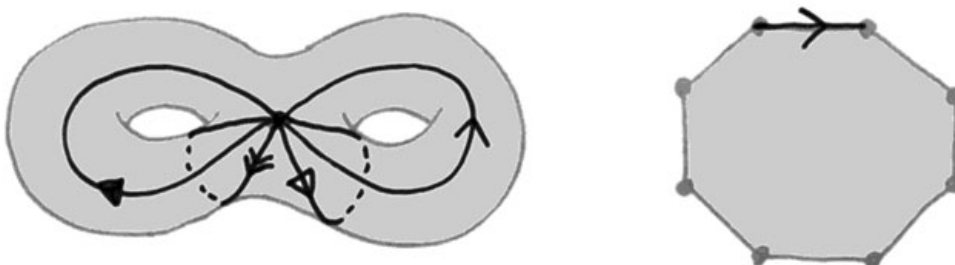You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.

[1] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
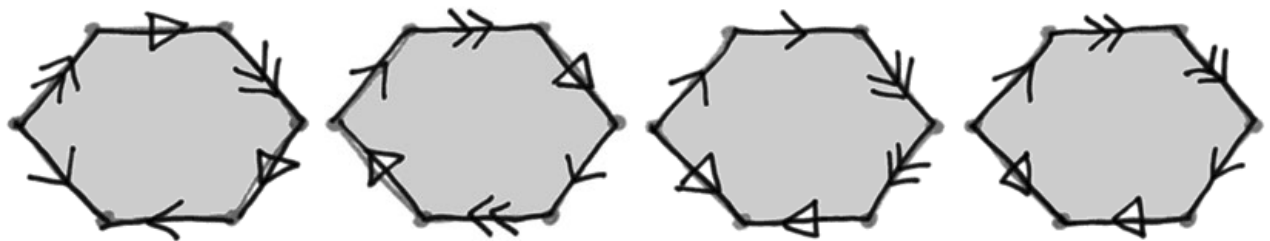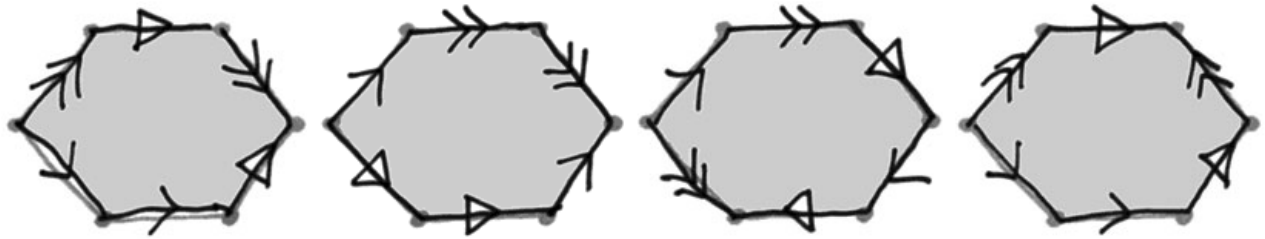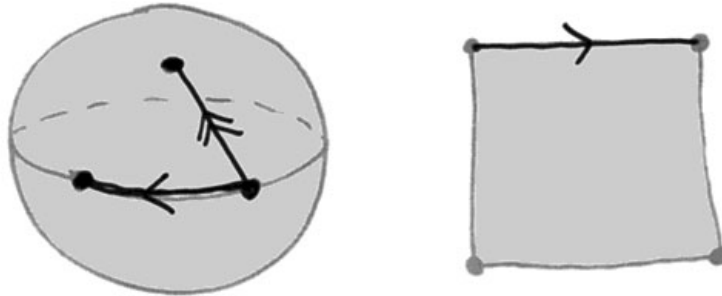

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First Exam IF

Surfaces and Knots, Dave Bayer, February 21, 2002

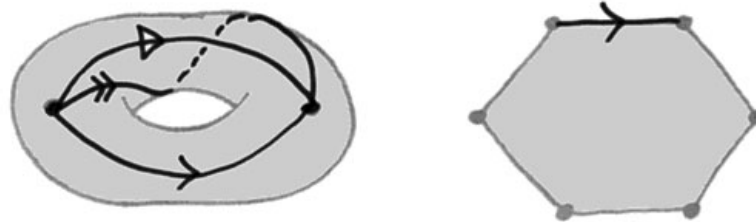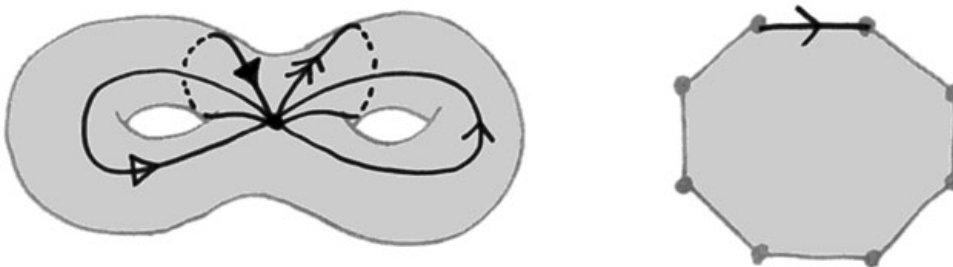**Name:** ──────────────── **School:** ──────────

[1]	[2]	[3]	[4]	[5]	**TOTAL**

You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.

[1] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
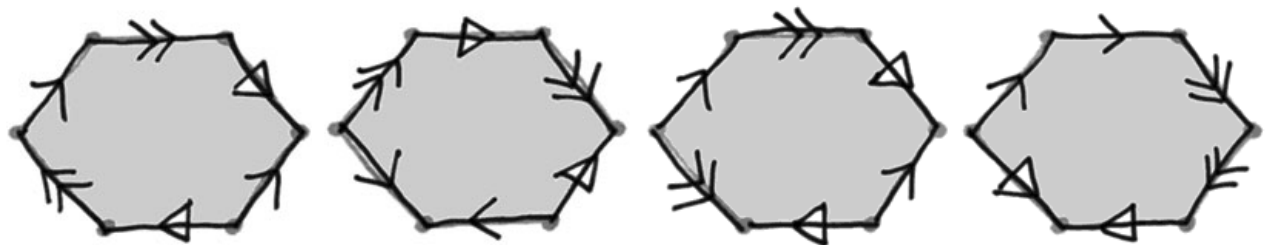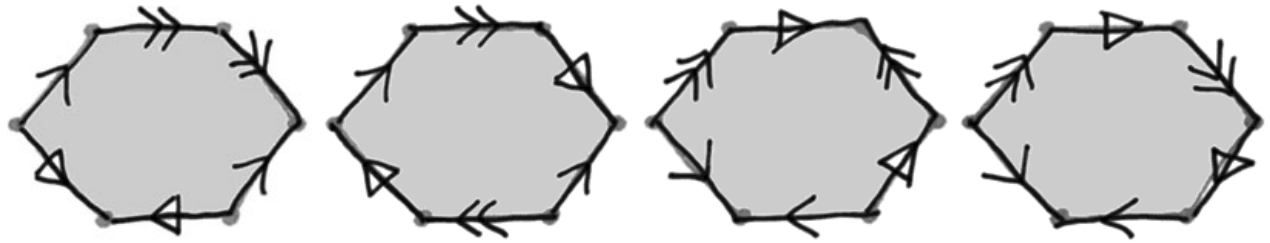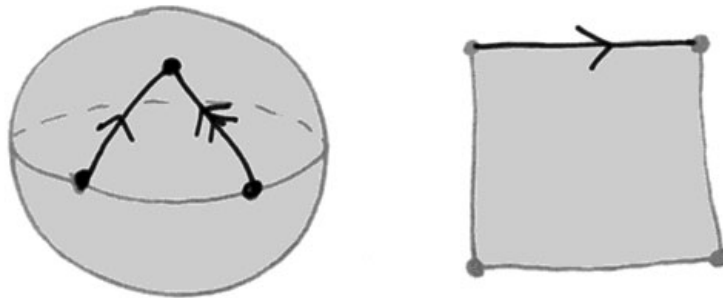

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First Exam IG

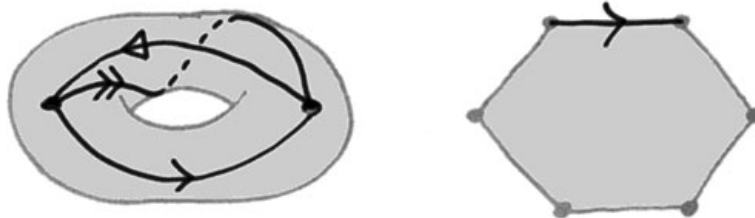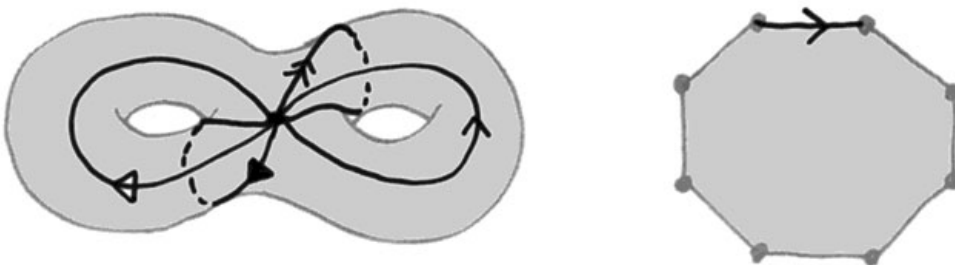Surfaces and Knots, Dave Bayer, February 21, 2002

Name: ⸻ **School:** ⸻

[1]	[2]	[3]	[4]	[5]	**TOTAL**

You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.

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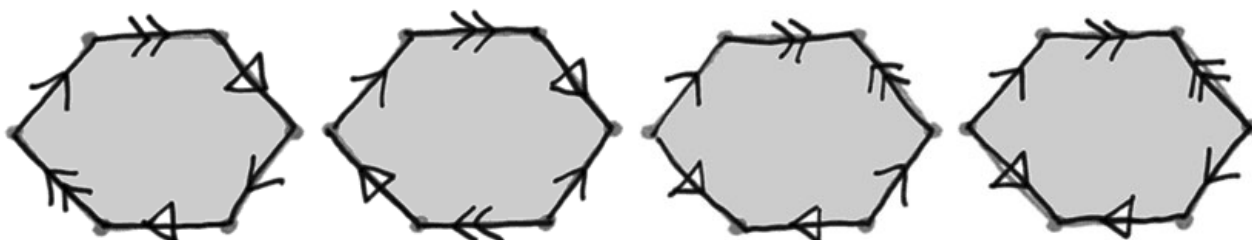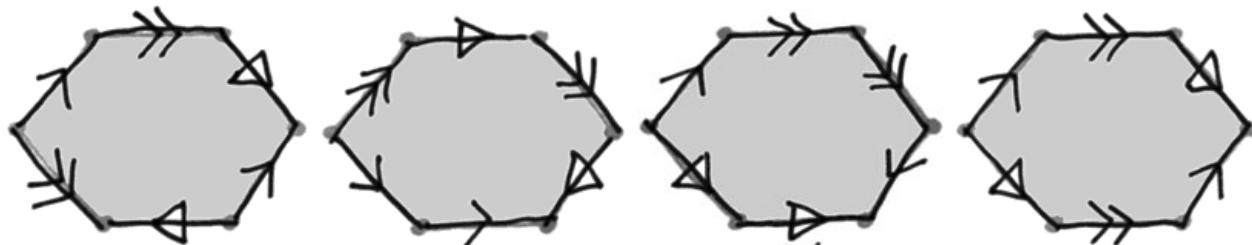

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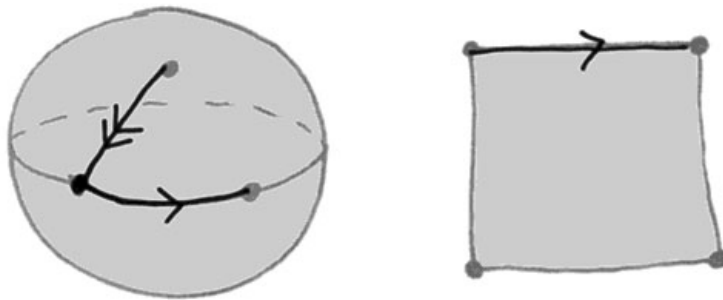
First Exam IH

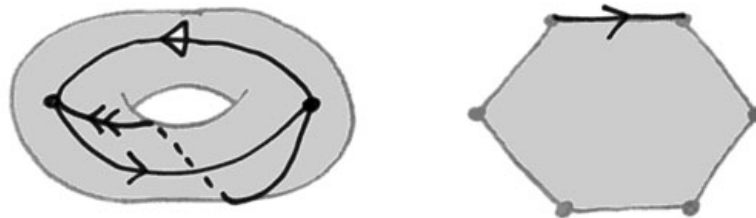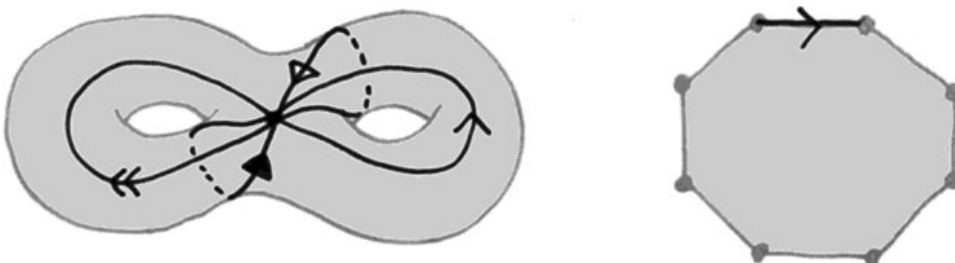Surfaces and Knots, Dave Bayer, February 21, 2002

Name: _____   **School:** _____

[1]	[2]	[3]	[4]	[5]	TOTAL

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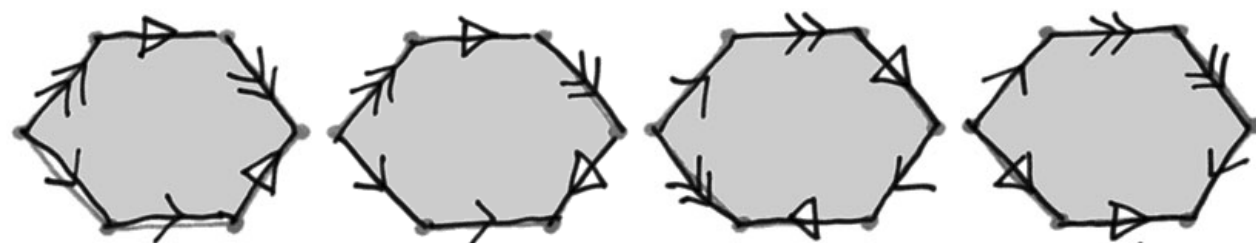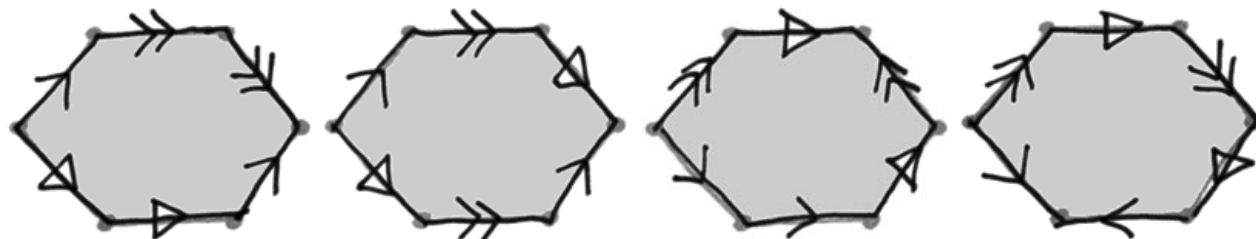

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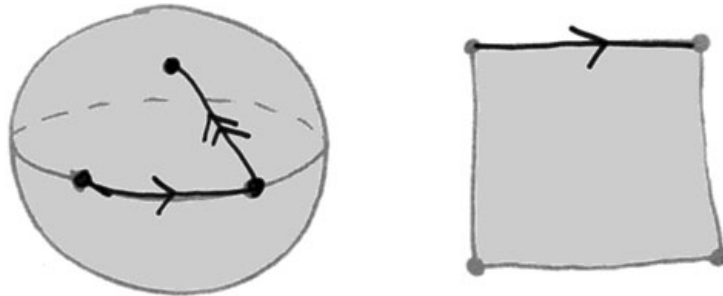
First Exam II

Surfaces and Knots, Dave Bayer, February 21, 2002
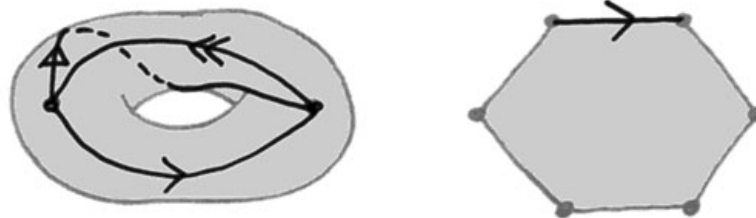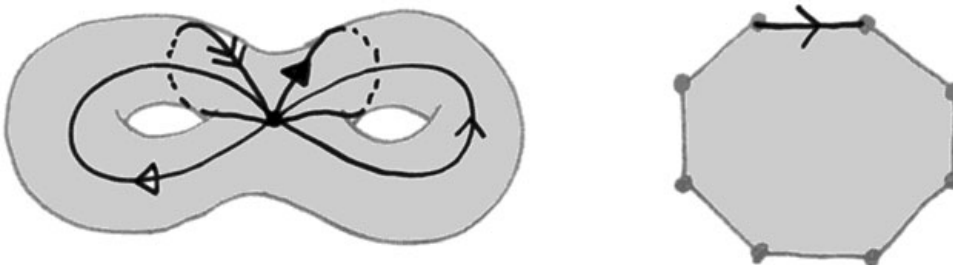
Name: _____ **School:** _____

[1]	[2]	[3]	[4]	[5]	**TOTAL**

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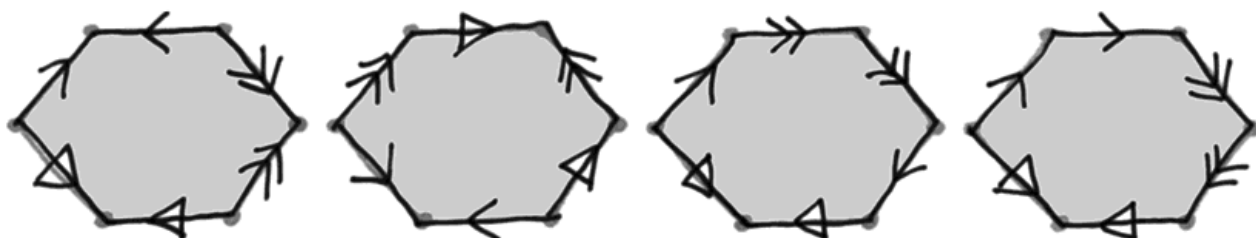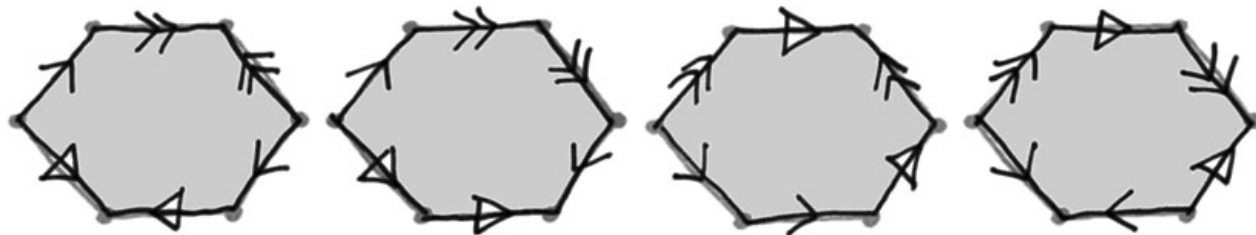

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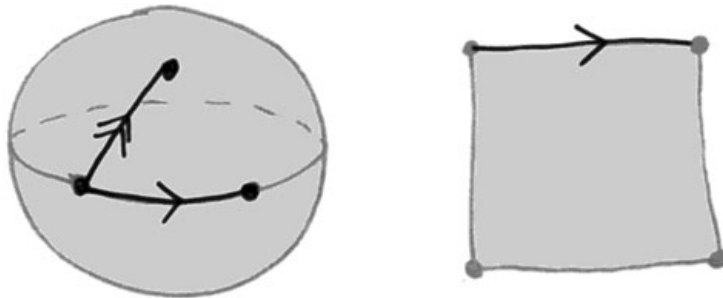
First Exam IJ

Surfaces and Knots, Dave Bayer, February 21, 2002

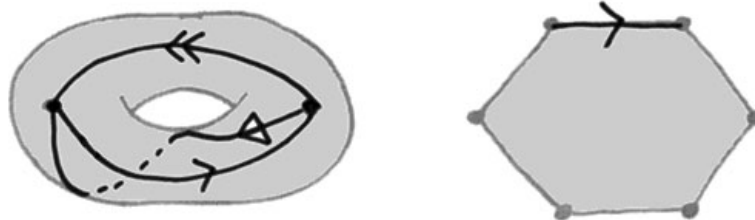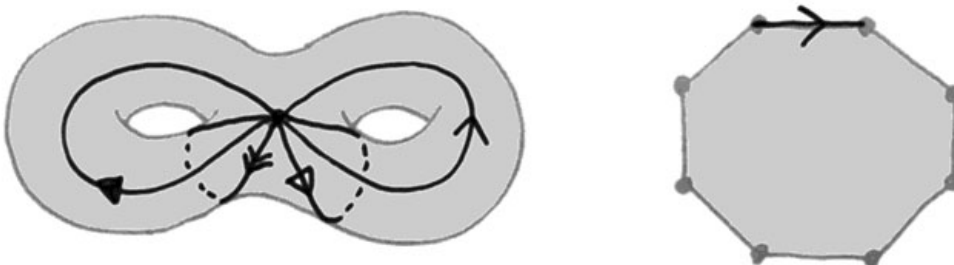**Name:** ⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯ **School:** ⎯⎯⎯⎯⎯⎯⎯⎯⎯

[1]	**[2]**	**[3]**	**[4]**	**[5]**	**TOTAL**

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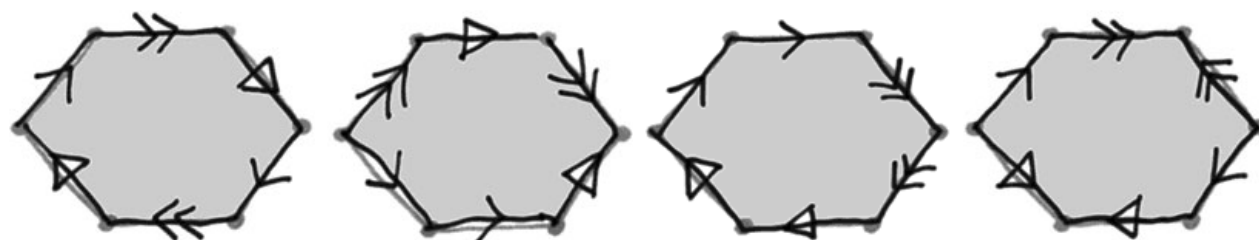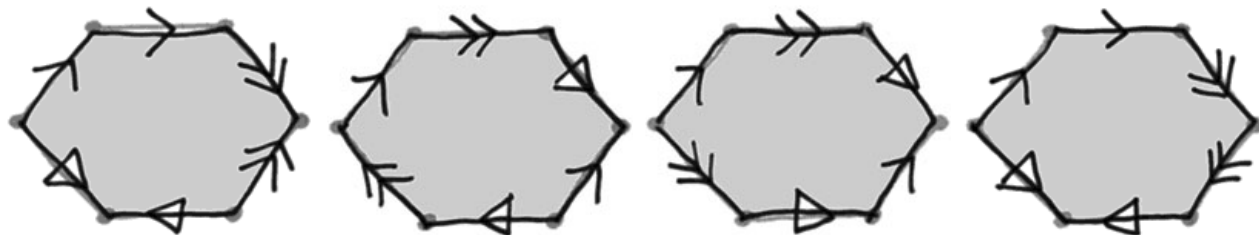

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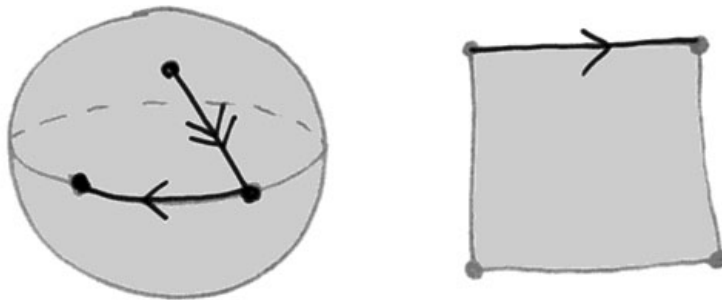
First Exam IK

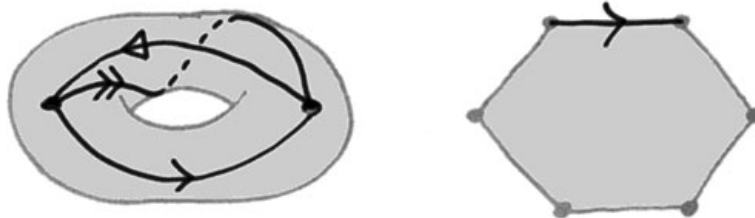Surfaces and Knots, Dave Bayer, February 21, 2002

Name: _____ **School:** _____

[1]	**[2]**	**[3]**	**[4]**	**[5]**	**TOTAL**

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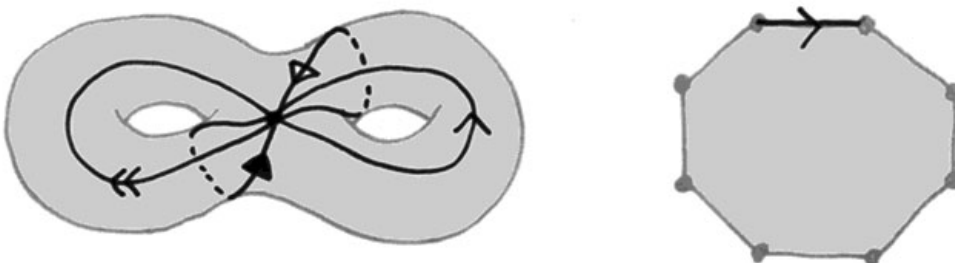
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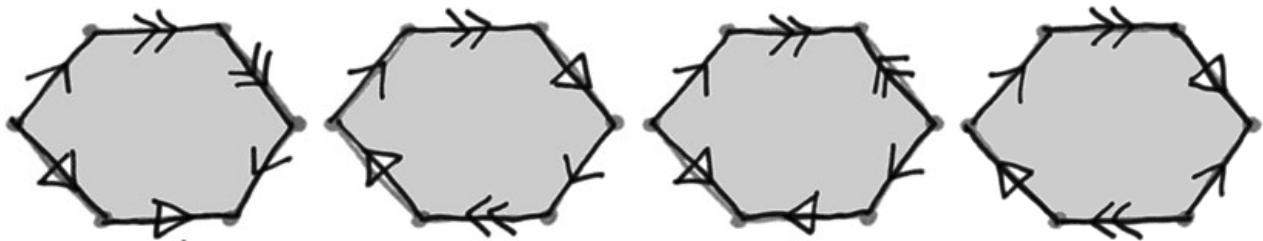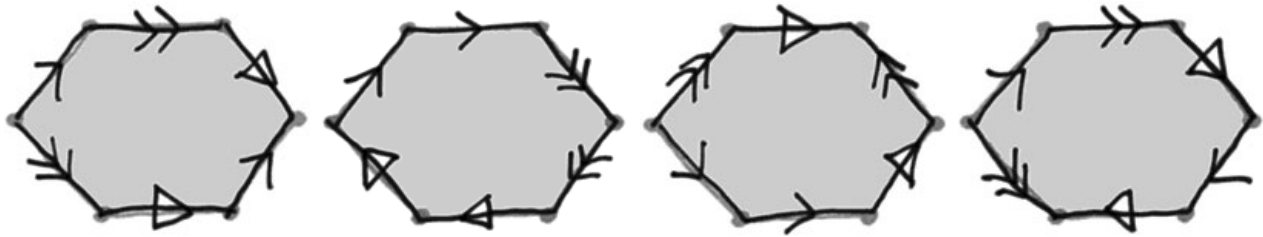

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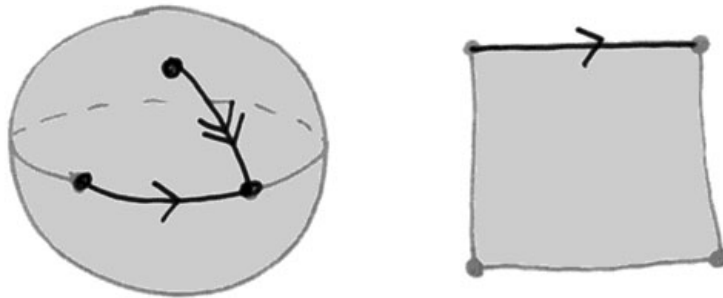
First Exam IL

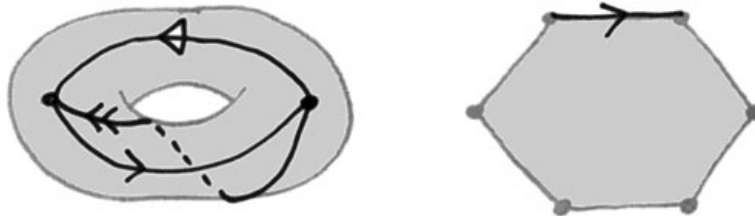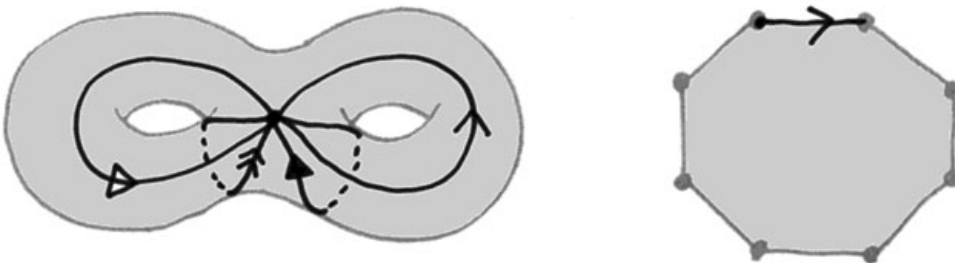Surfaces and Knots, Dave Bayer, February 21, 2002

Name: _____ **School:** _____

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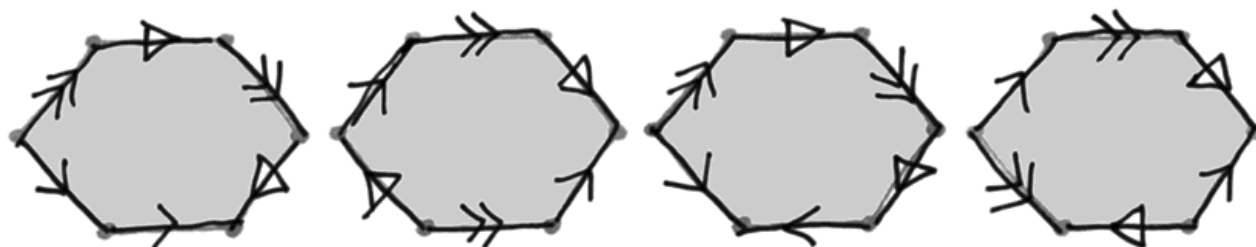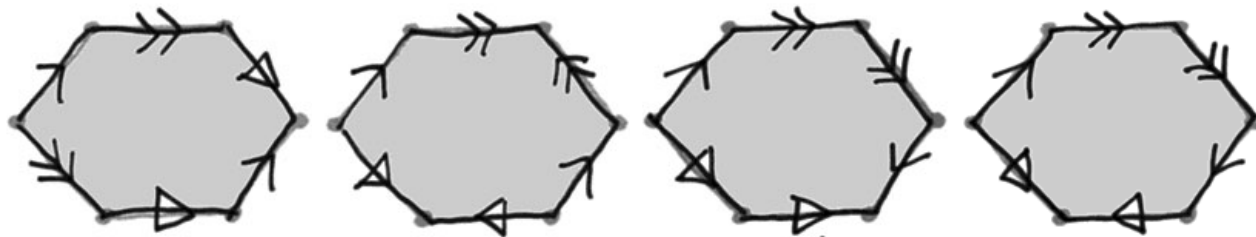
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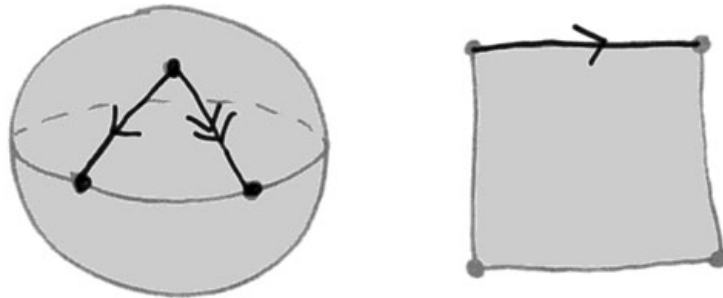
First Exam IM

Surfaces and Knots, Dave Bayer, February 21, 2002

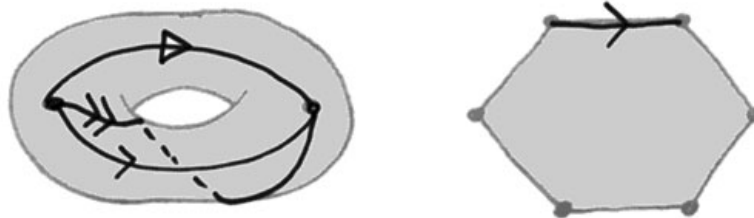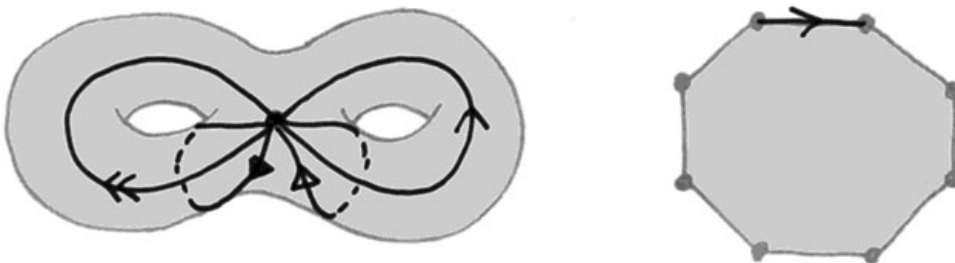**Name:** ⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯ **School:** ⎯⎯⎯⎯⎯⎯⎯

[1]	**[2]**	**[3]**	**[4]**	**[5]**	**TOTAL**

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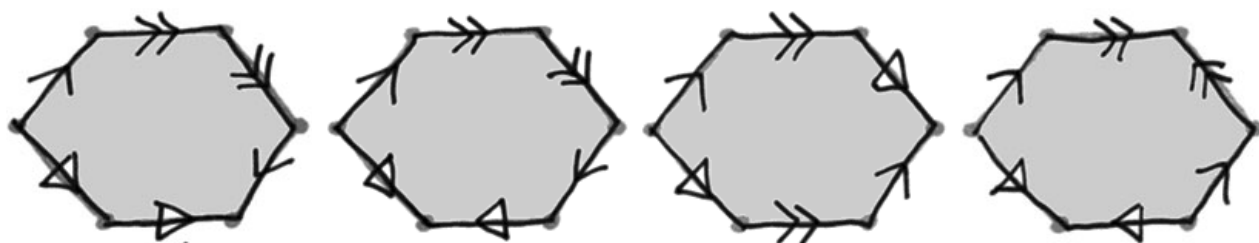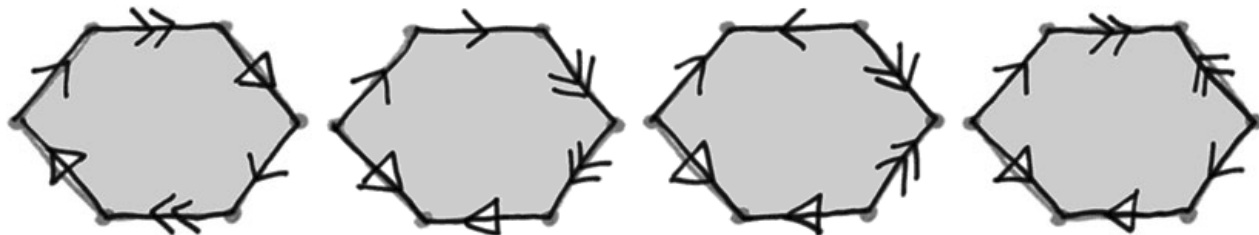

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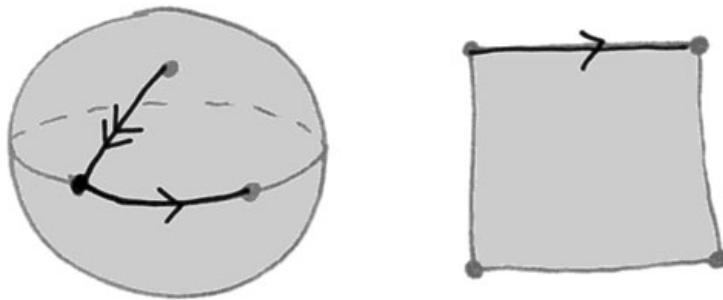
First Exam IN

Surfaces and Knots, Dave Bayer, February 21, 2002
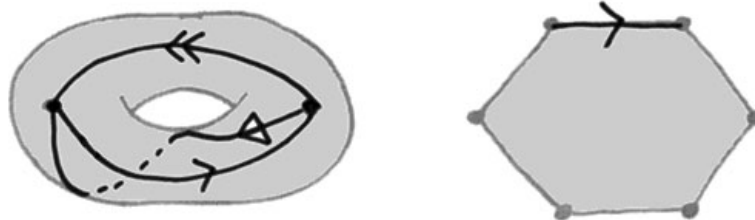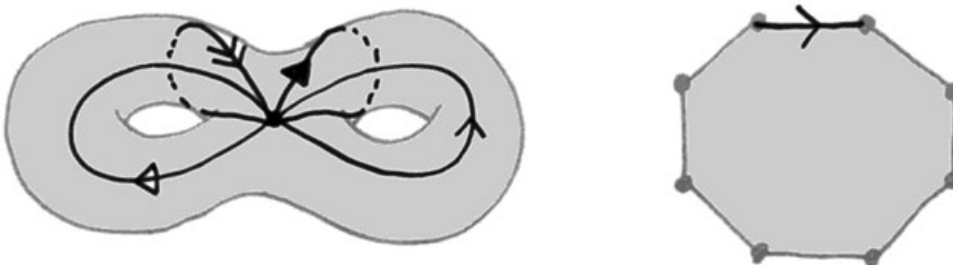
Name: _____ **School:** _____

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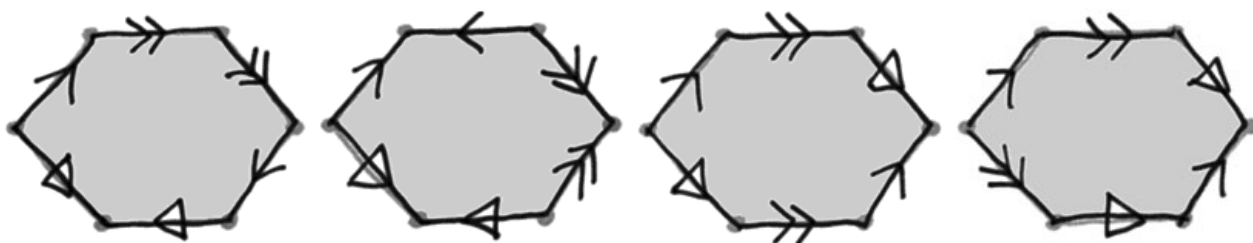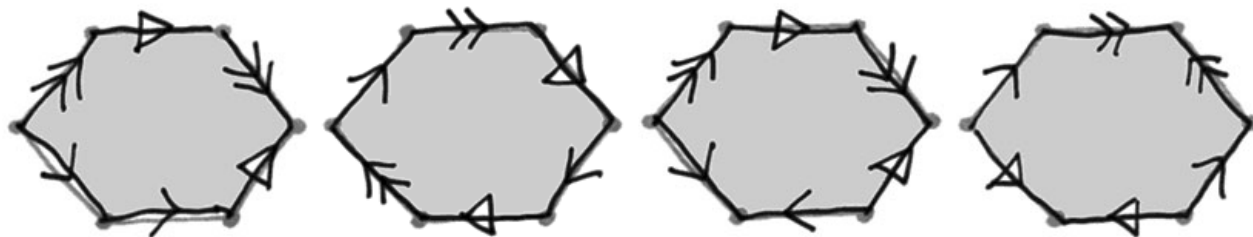

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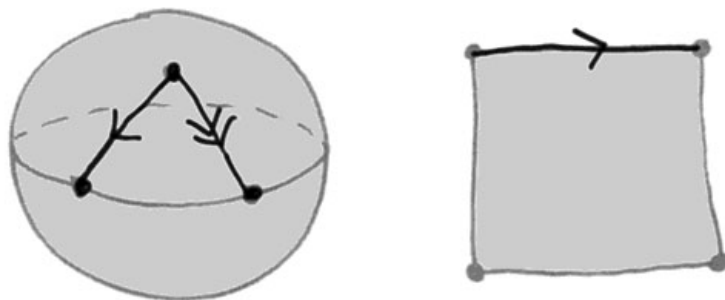
First Exam JA

Surfaces and Knots, Dave Bayer, February 21, 2002
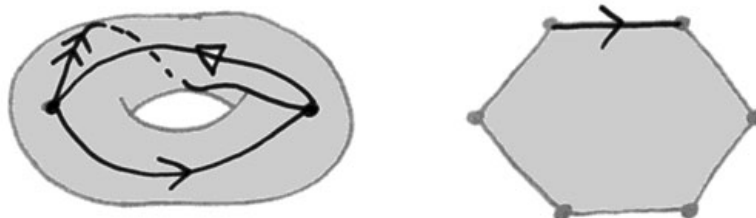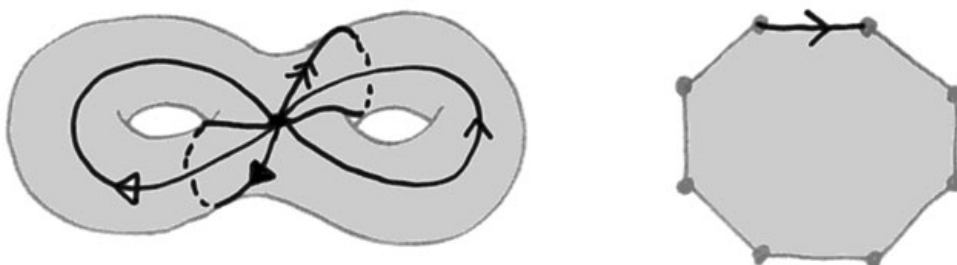
Name: _____   **School:** _____

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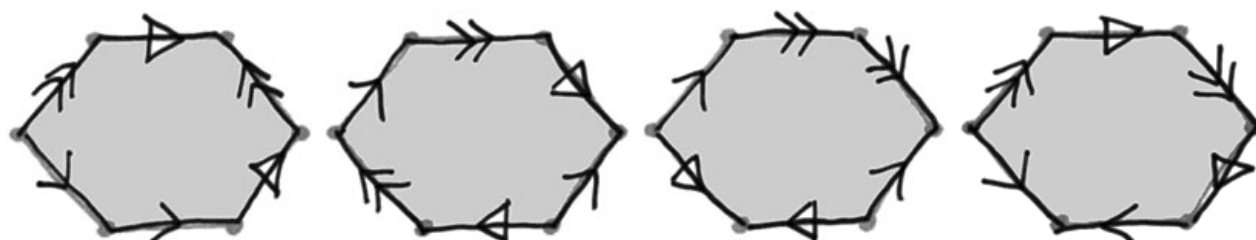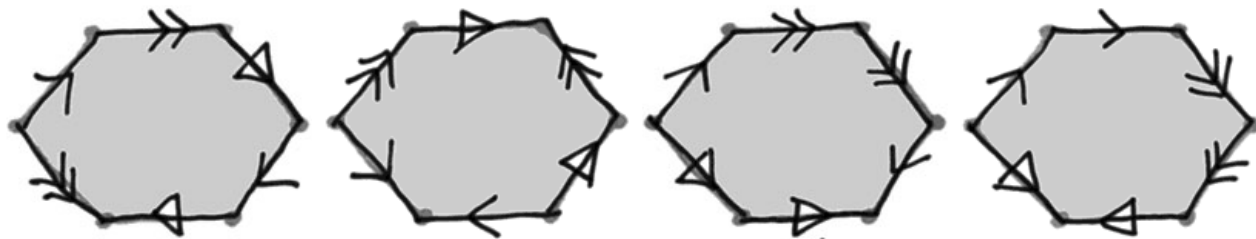

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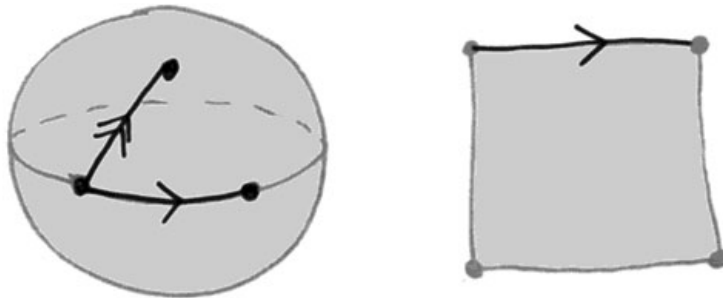
First Exam JB

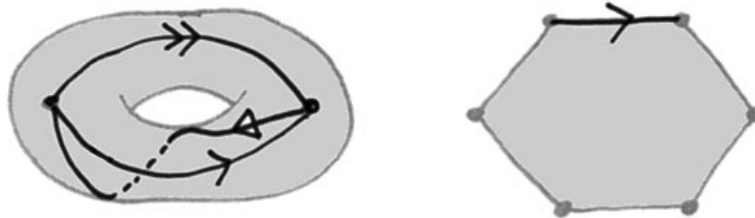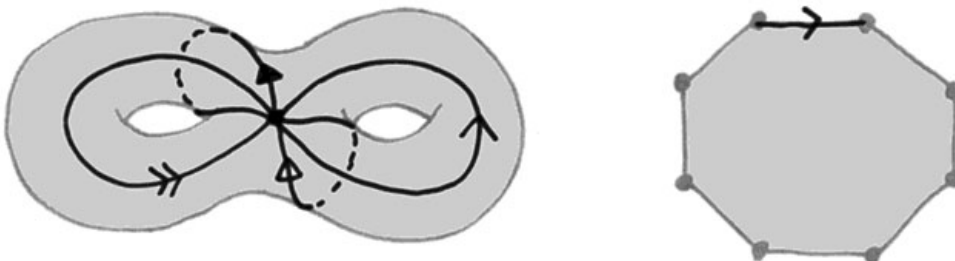Surfaces and Knots, Dave Bayer, February 21, 2002

Name: _____   **School:** _____

[1]	[2]	[3]	[4]	[5]	**TOTAL**

You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.

[1] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
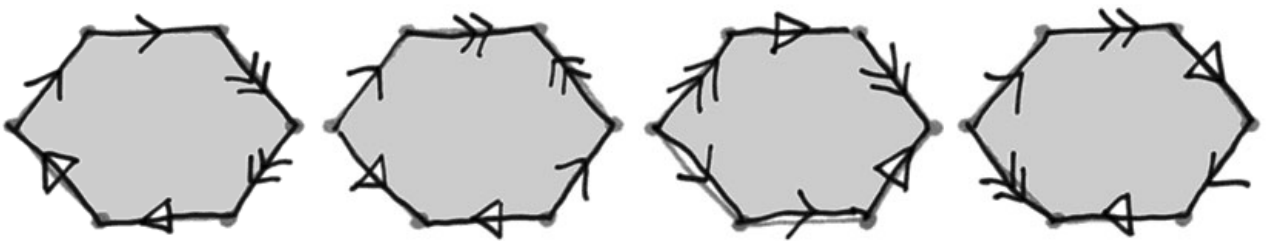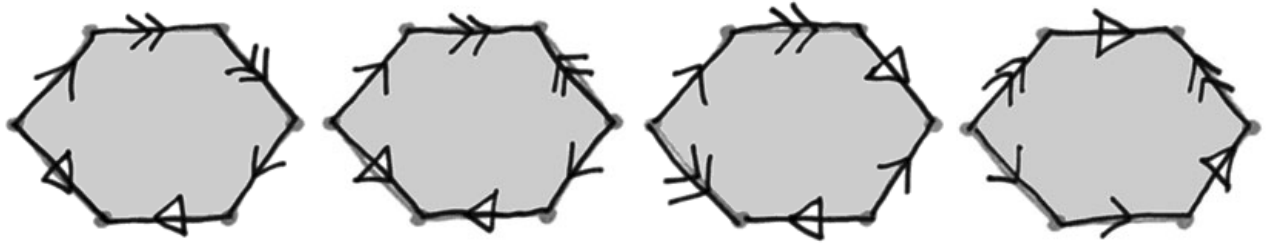

[2] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.

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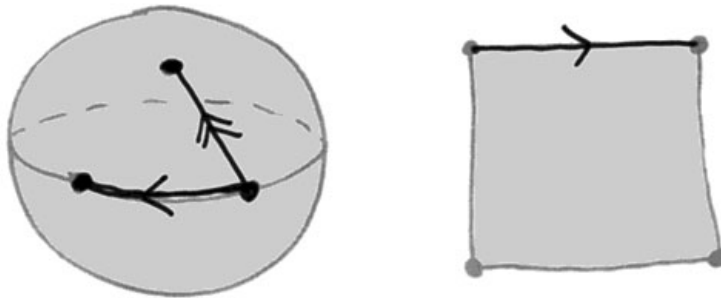
First Exam JC

Surfaces and Knots, Dave Bayer, February 21, 2002
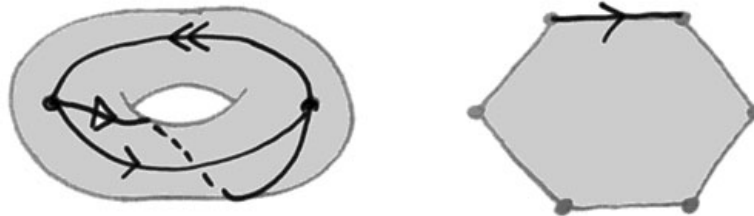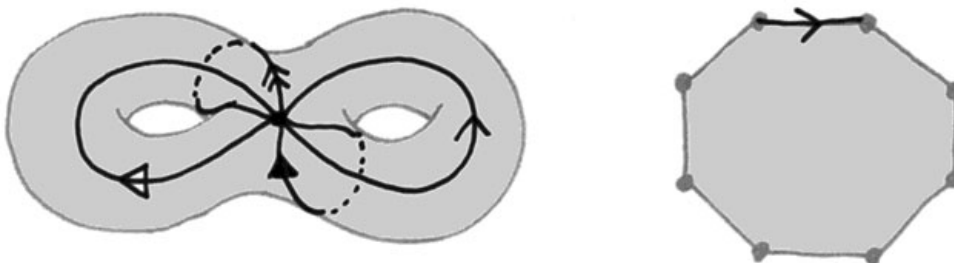
Name: _____ **School:** _____

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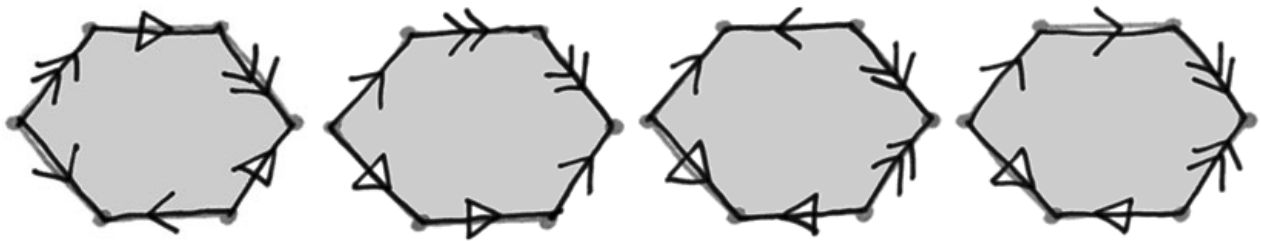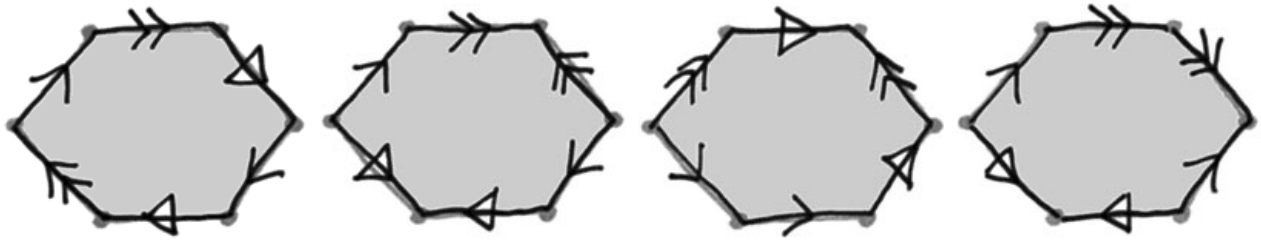

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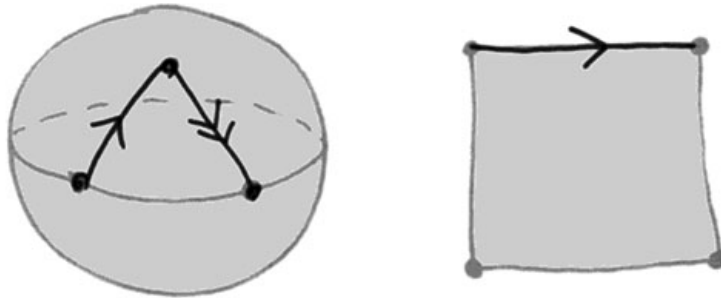
First Exam JD

Surfaces and Knots, Dave Bayer, February 21, 2002
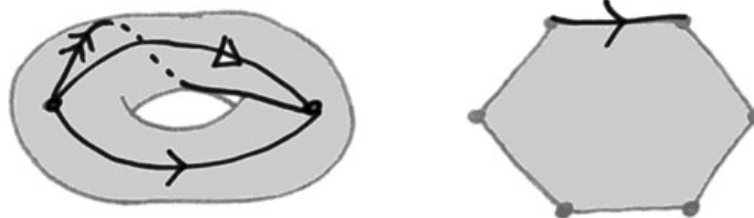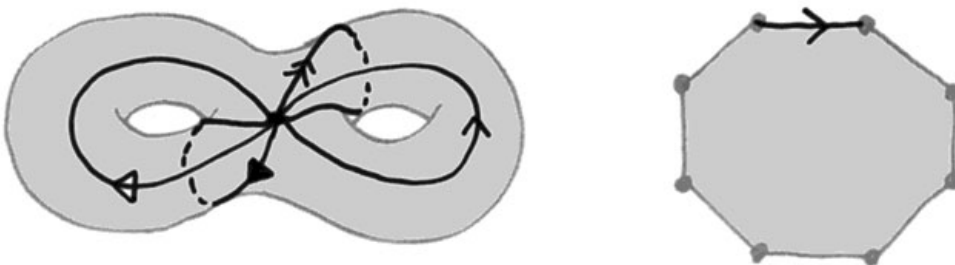
Name: _____ **School:** _____

[1]	[2]	[3]	[4]	[5]	**TOTAL**

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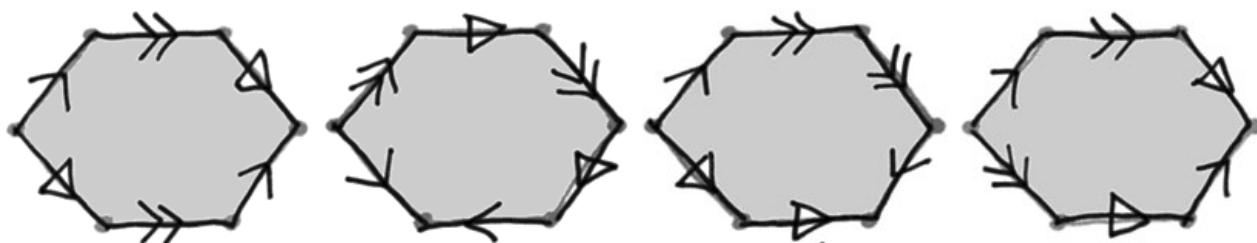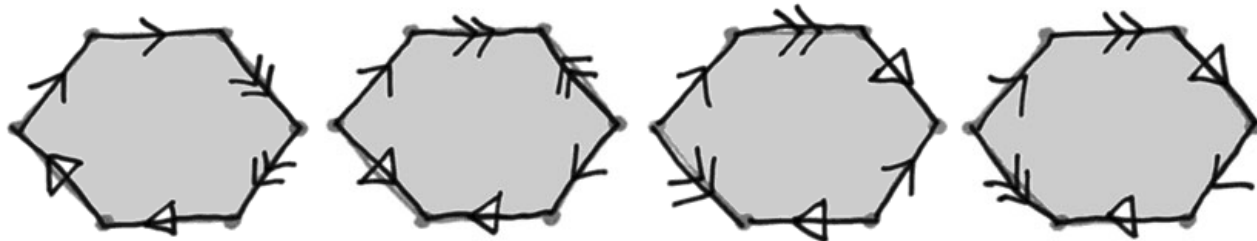

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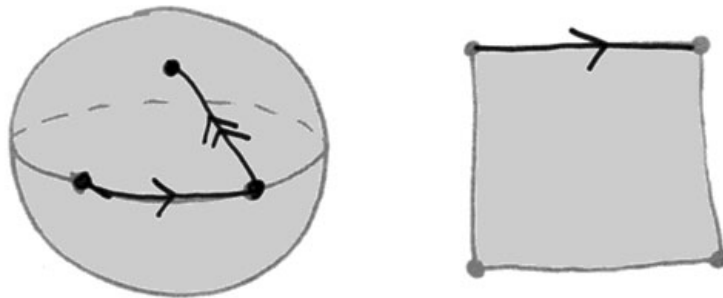
First Exam JE

Surfaces and Knots, Dave Bayer, February 21, 2002

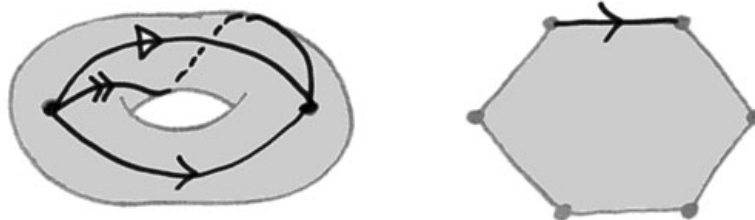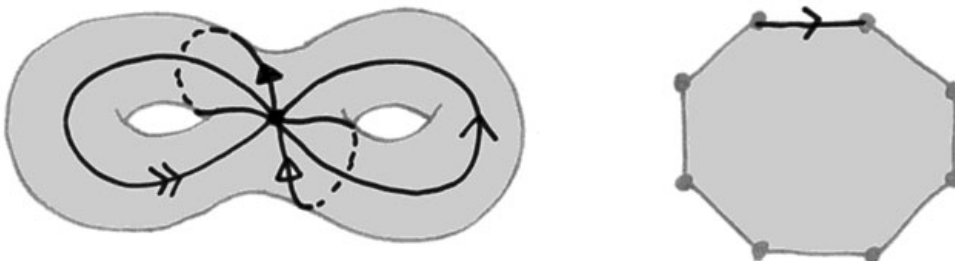**Name:** ⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯ **School:** ⎯⎯⎯⎯⎯⎯

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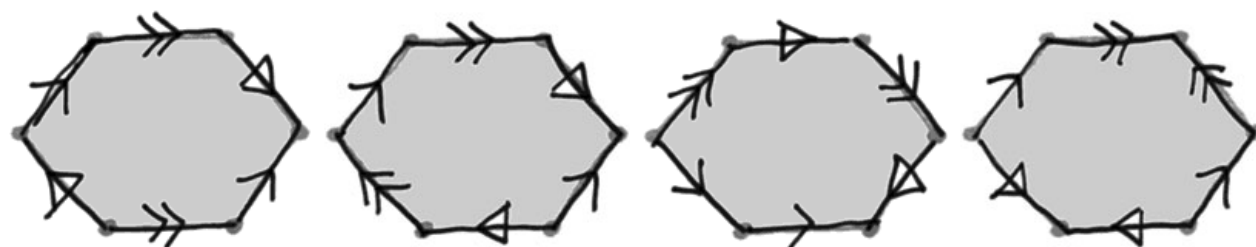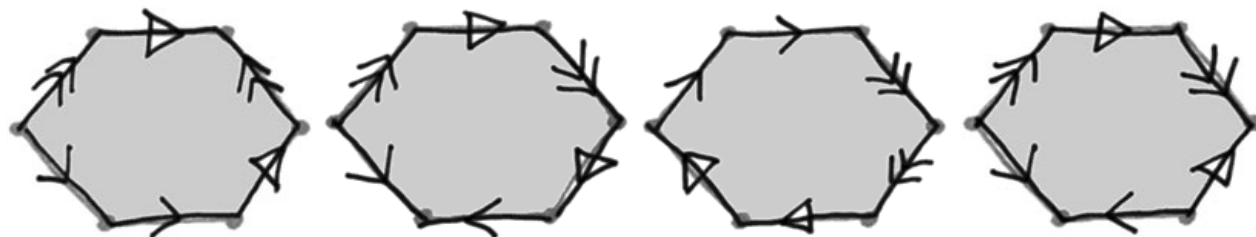

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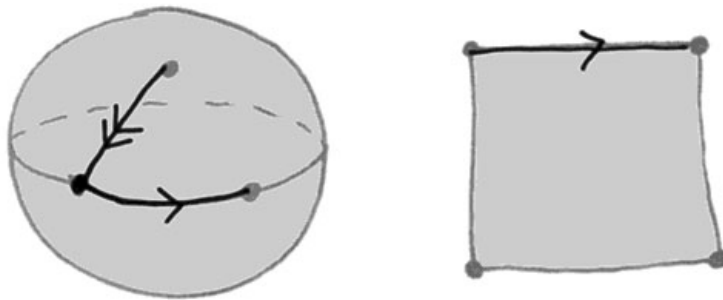
First Exam JF

Surfaces and Knots, Dave Bayer, February 21, 2002

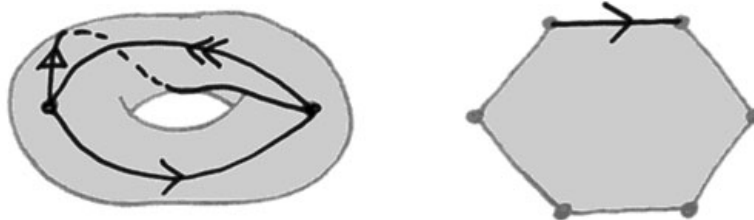**Name:** ⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯   **School:** ⎯⎯⎯⎯⎯⎯⎯

[1]	**[2]**	**[3]**	**[4]**	**[5]**	**TOTAL**

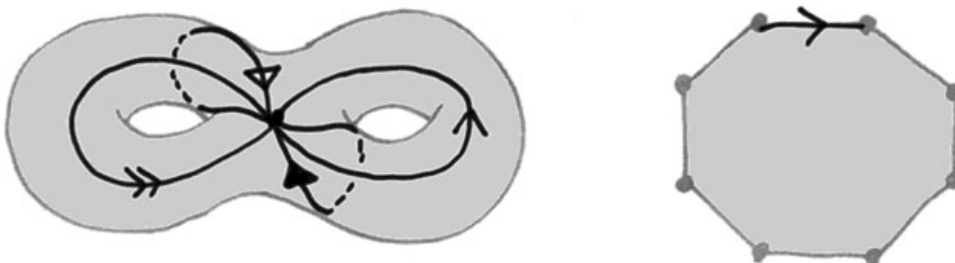 You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.

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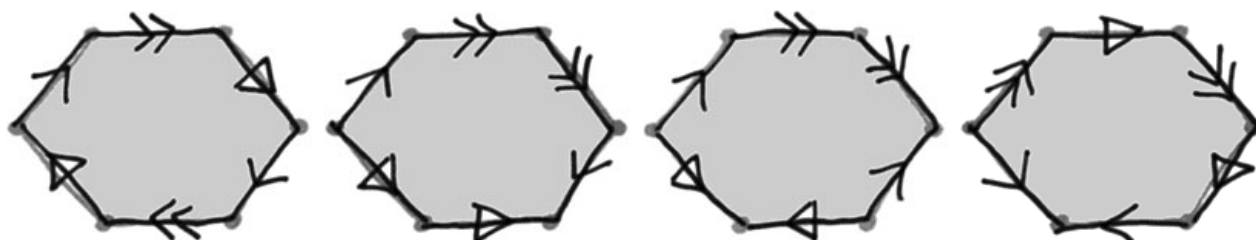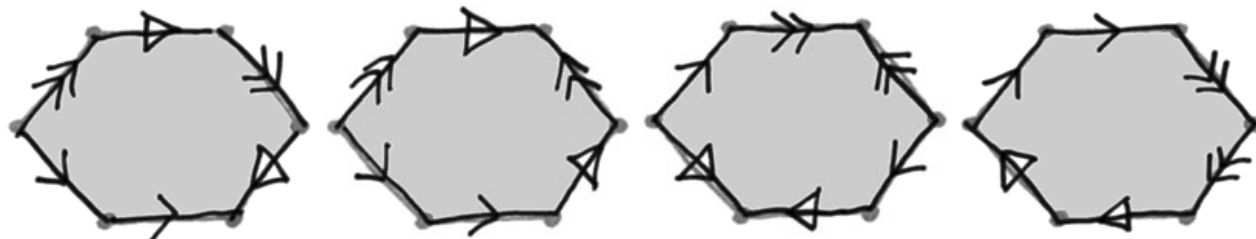
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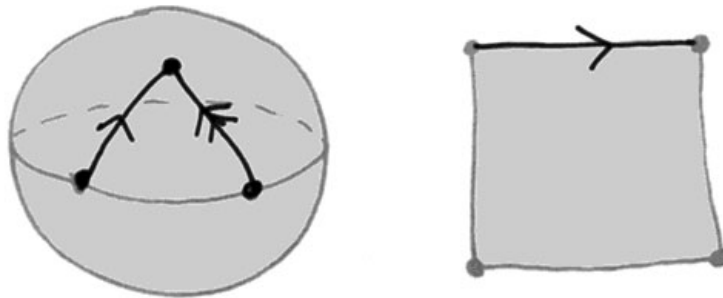
First Exam JG
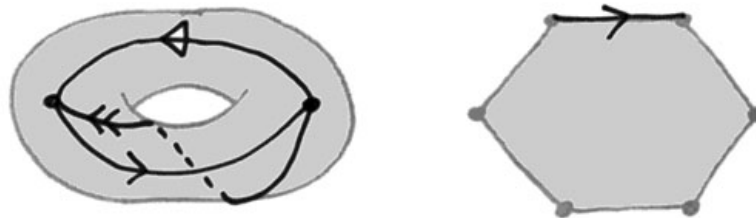
Surfaces and Knots, Dave Bayer, February 21, 2002

Name: ⸻⸻⸻⸻⸻⸻ **School:** ⸻⸻⸻

[1]	[2]	[3]	[4]	[5]	TOTAL

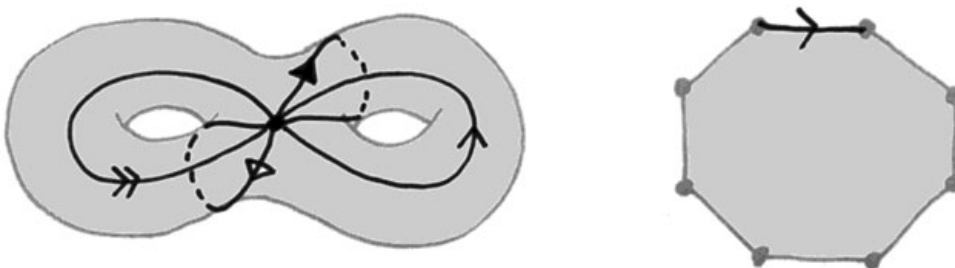You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.

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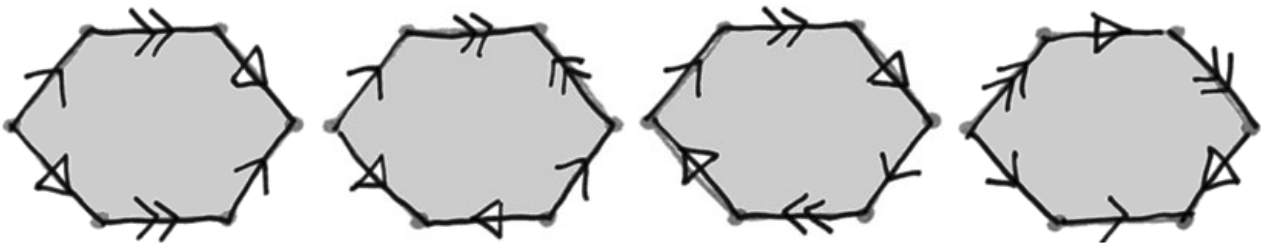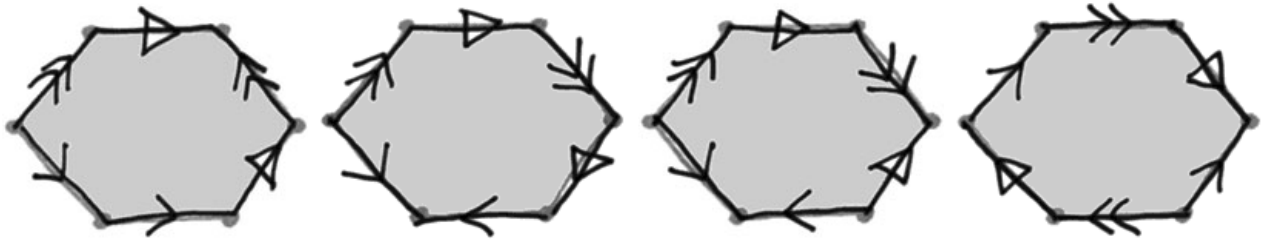

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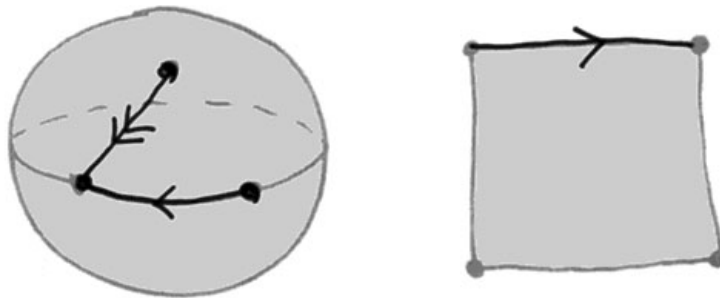
First Exam JH

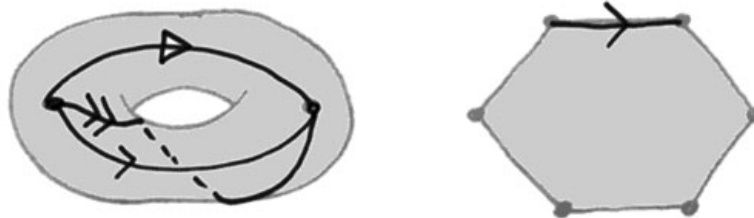Surfaces and Knots, Dave Bayer, February 21, 2002

Name: _____ **School:** _____

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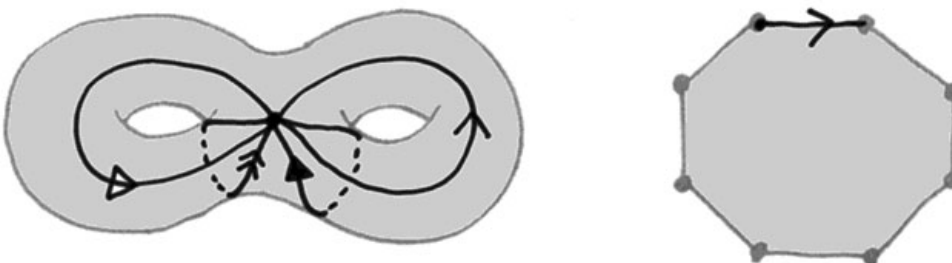You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.

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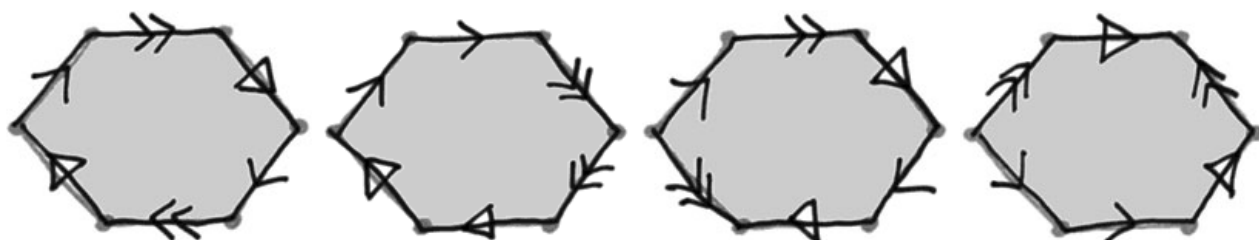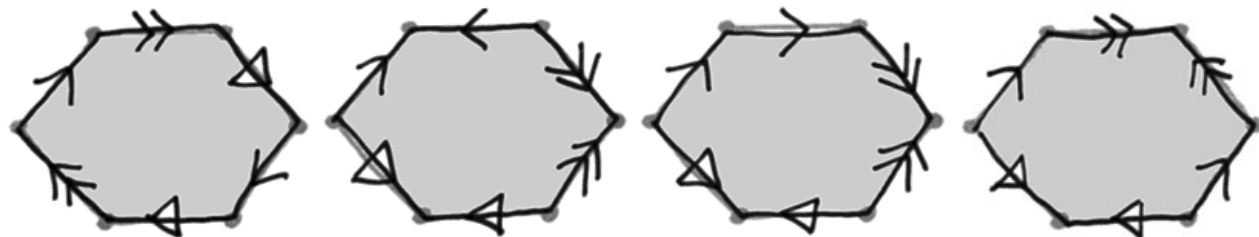
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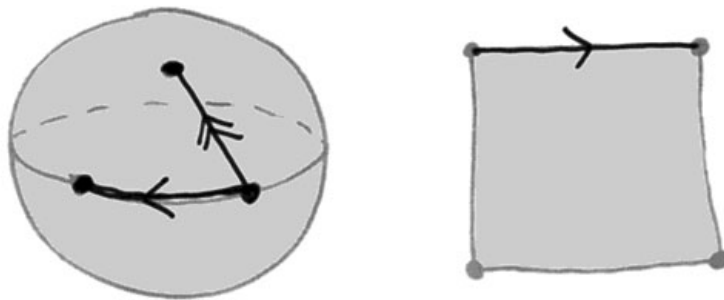
First Exam JI

Surfaces and Knots, Dave Bayer, February 21, 2002

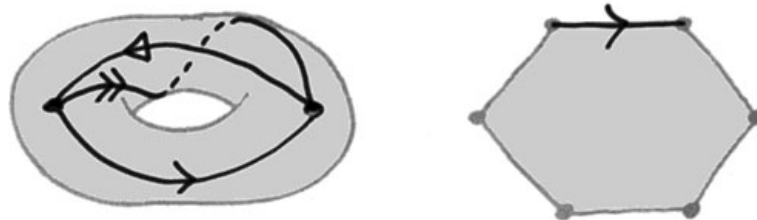**Name:** ⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯   **School:** ⎯⎯⎯⎯⎯⎯⎯⎯

[1]	[2]	[3]	[4]	[5]	TOTAL

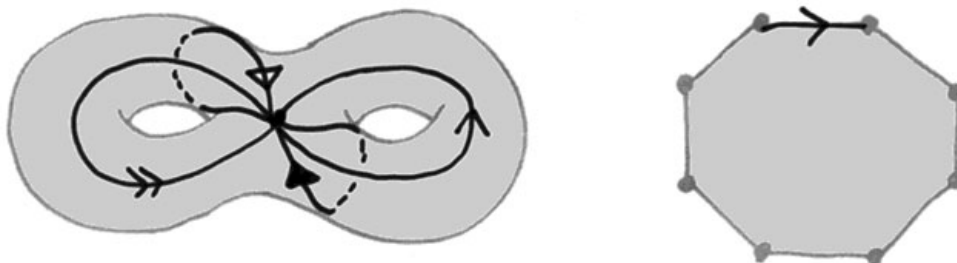You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.

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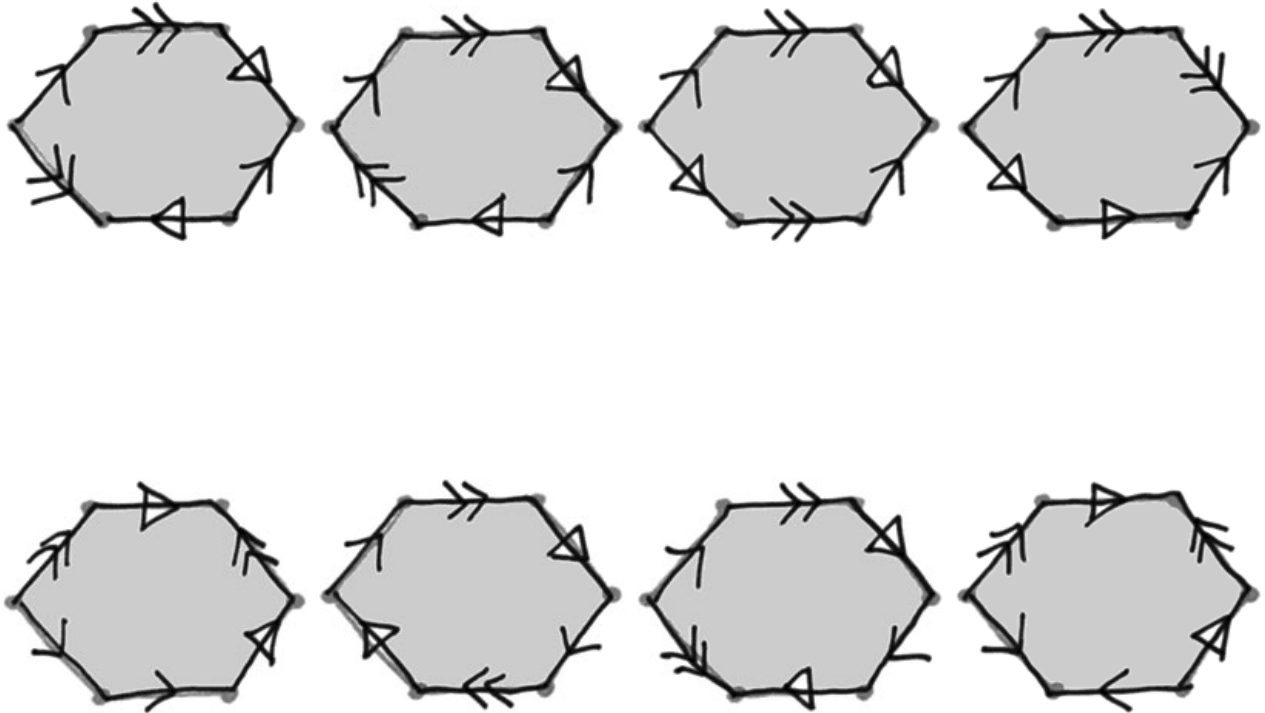

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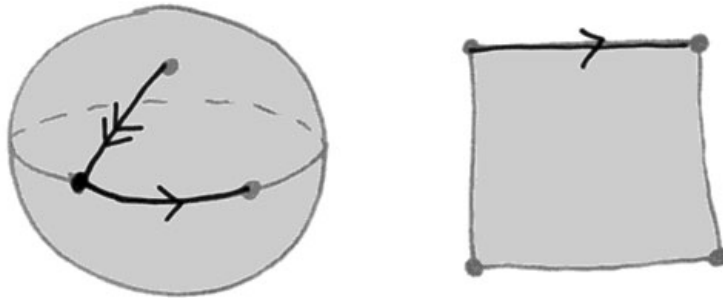
First Exam JJ

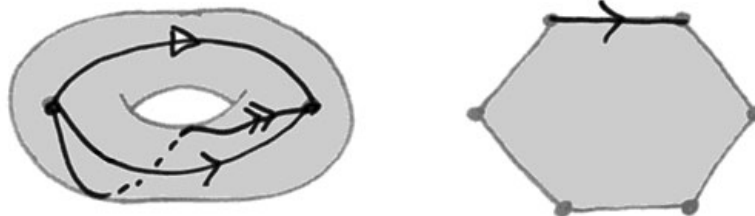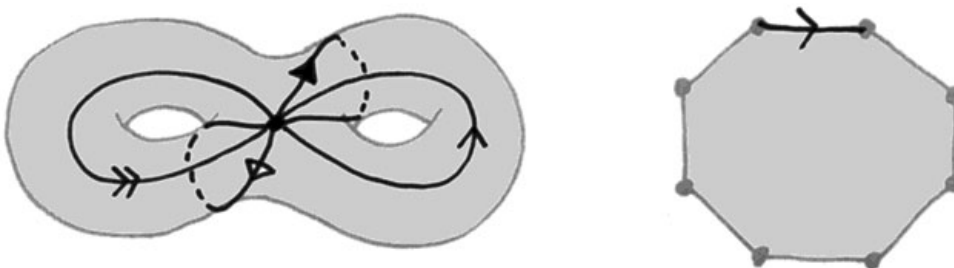Surfaces and Knots, Dave Bayer, February 21, 2002

Name: _____ **School:** _____

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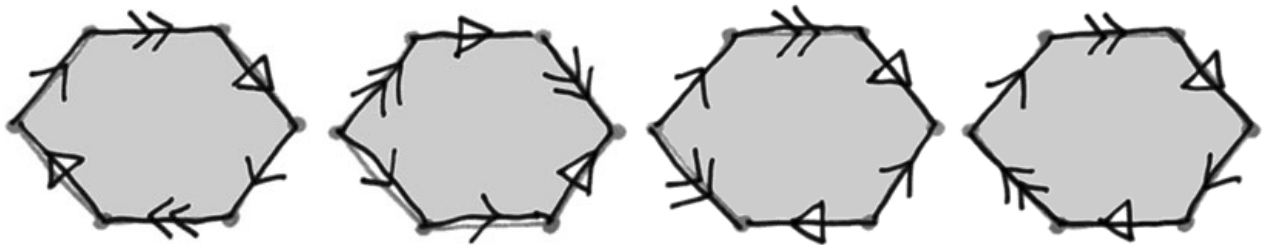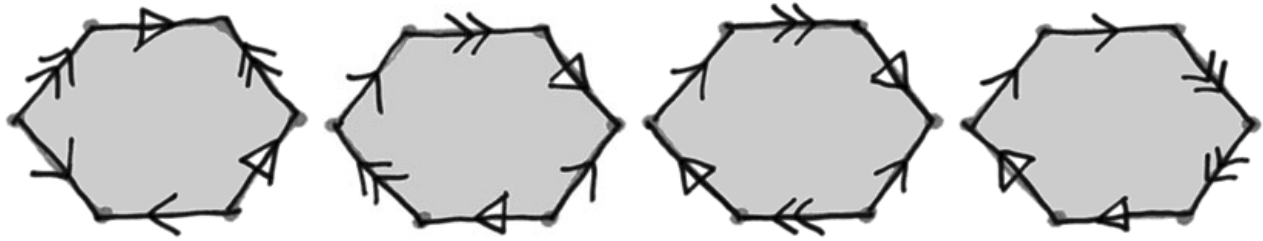

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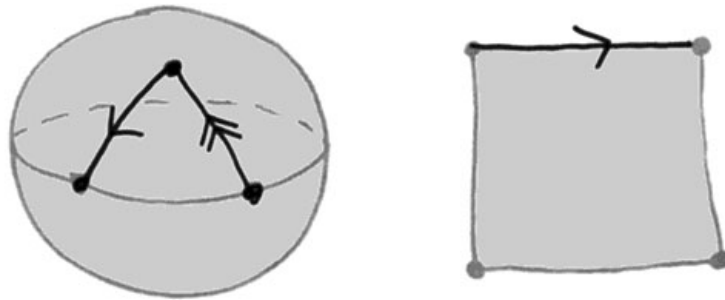
First Exam JK

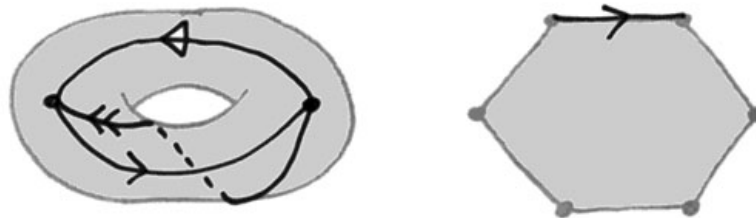Surfaces and Knots, Dave Bayer, February 21, 2002

Name: _____ **School:** _____

[1]	**[2]**	**[3]**	**[4]**	**[5]**	**TOTAL**

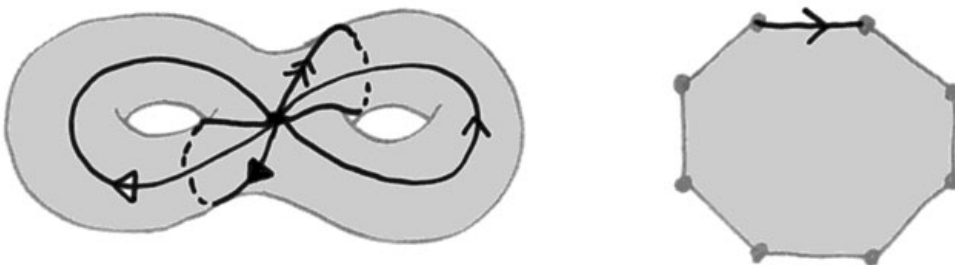You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.

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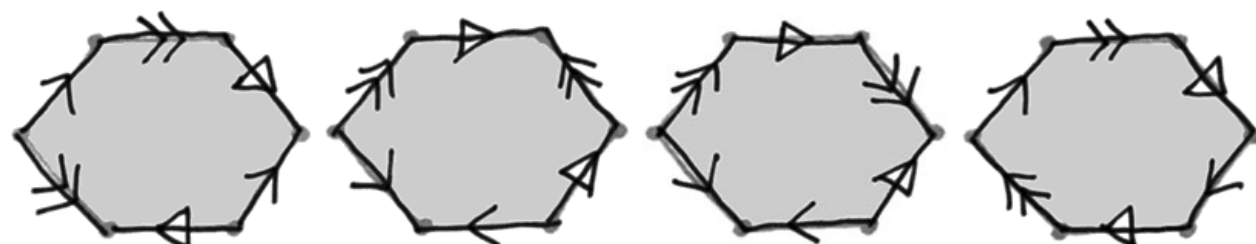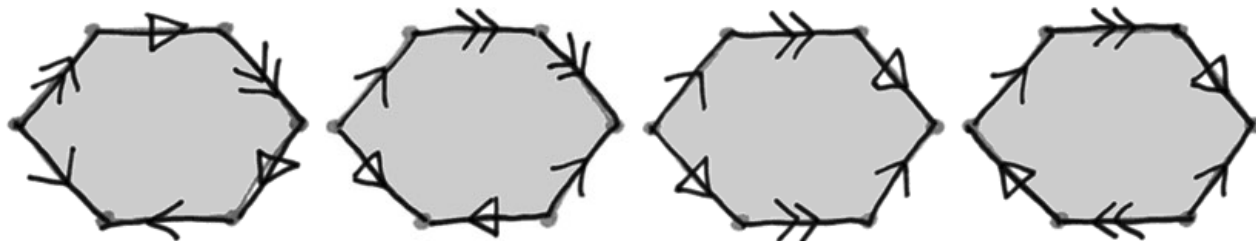
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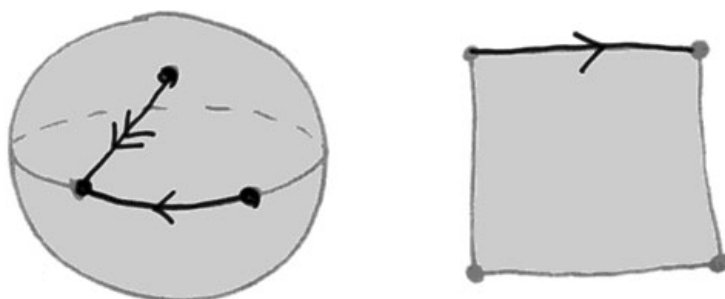
First Exam JL

Surfaces and Knots, Dave Bayer, February 21, 2002

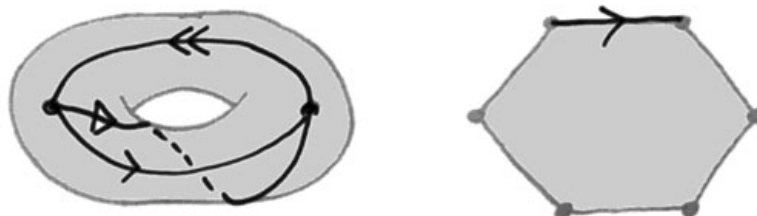**Name:** ⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯ **School:** ⎯⎯⎯⎯⎯⎯⎯

[1]	[2]	[3]	[4]	[5]	TOTAL

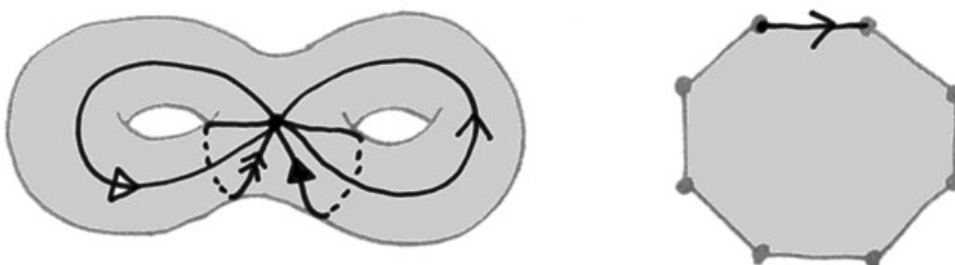You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.

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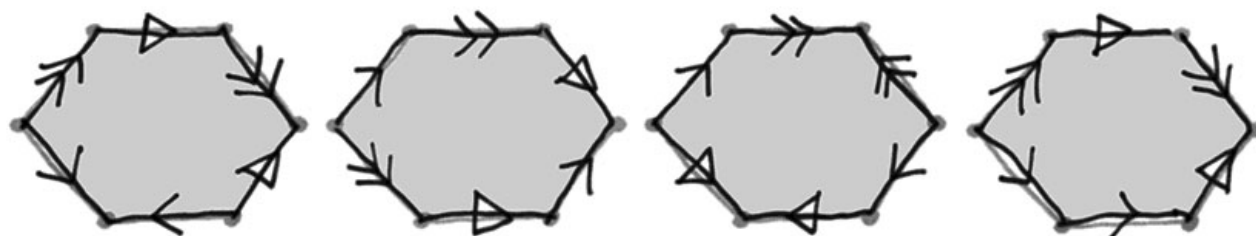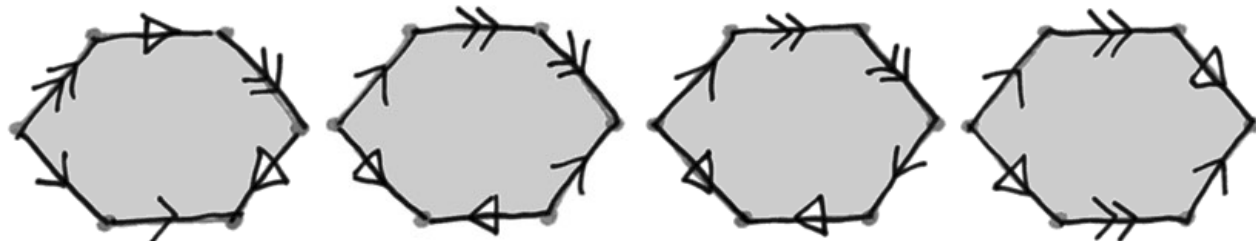

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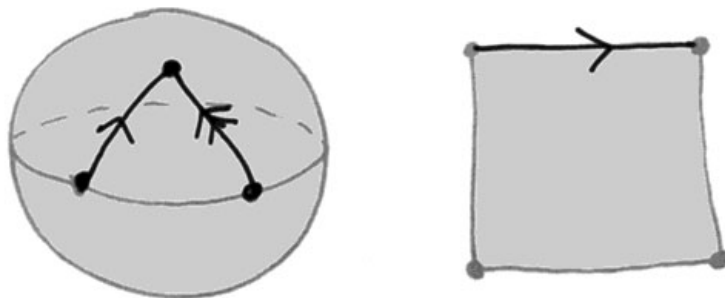
First Exam JM

Surfaces and Knots, Dave Bayer, February 21, 2002

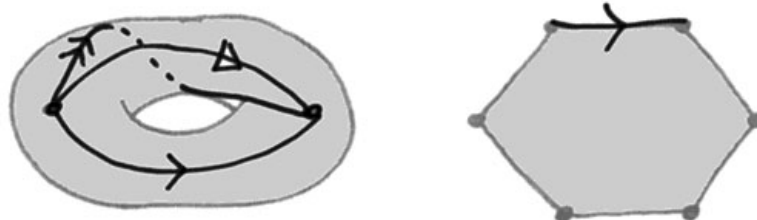**Name:** ─────────────────────── **School:** ──────────

[1]	**[2]**	**[3]**	**[4]**	**[5]**	**TOTAL**

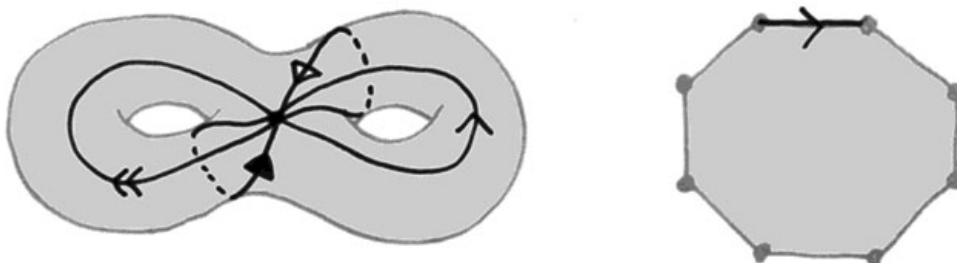You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.

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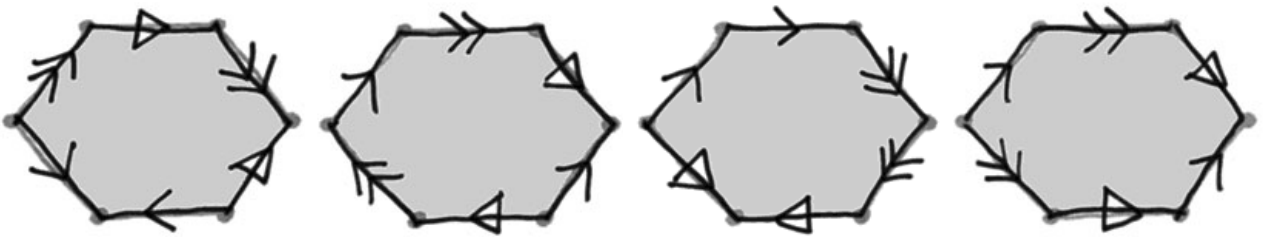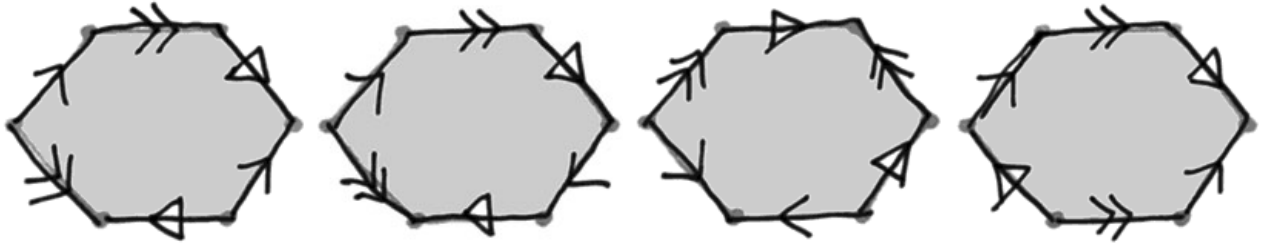

[2] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.

[3] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.

[**4**] Determine what surface each of the following gluing diagrams represents, by computing its Euler characteristic, and determining whether it is orientable or not.

[**5**] Find a pair of gluing diagrams, above, which represent the same surface. In any set of eight hexagonal gluing diagrams, why must there always be such a pair? Demonstrate that your pair represents the same surface, by modifying the diagrams until they agree.
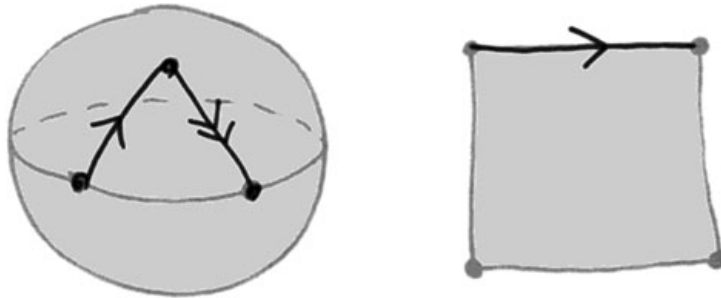
First Exam JN

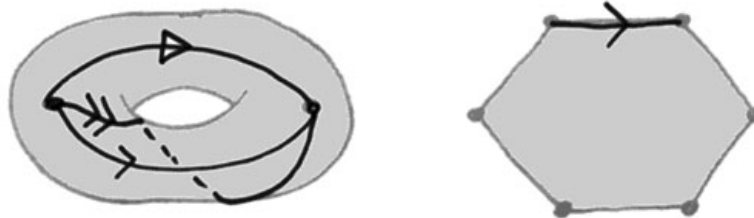Surfaces and Knots, Dave Bayer, February 21, 2002

Name: _____ **School:** _____

[1]	**[2]**	**[3]**	**[4]**	**[5]**	**TOTAL**

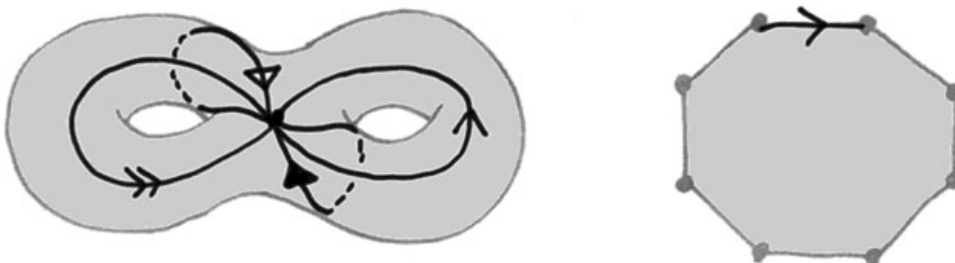You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.

[1] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
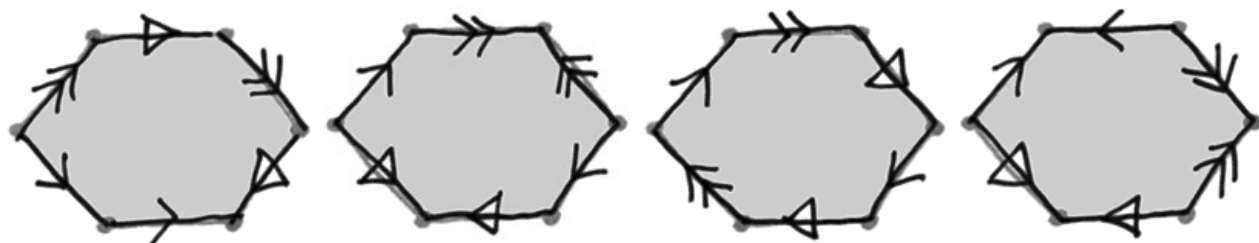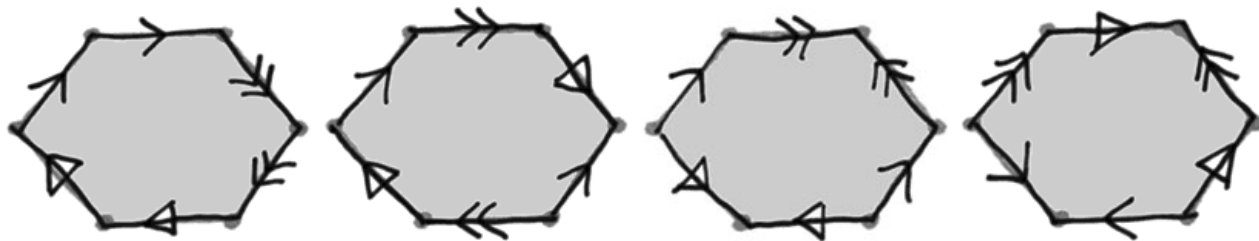

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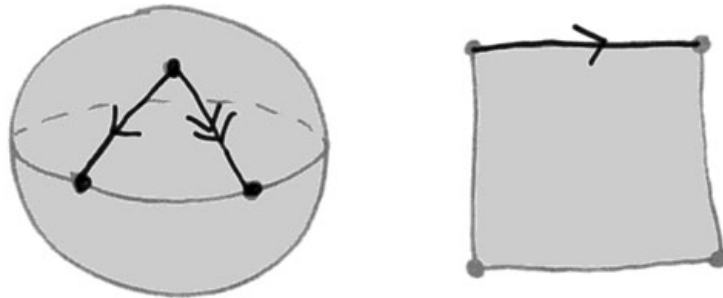
First Exam KA

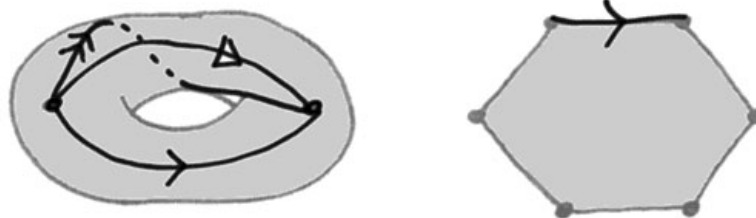Surfaces and Knots, Dave Bayer, February 21, 2002

Name: _____ **School:** _____

[1]	[2]	[3]	[4]	[5]	TOTAL

You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.
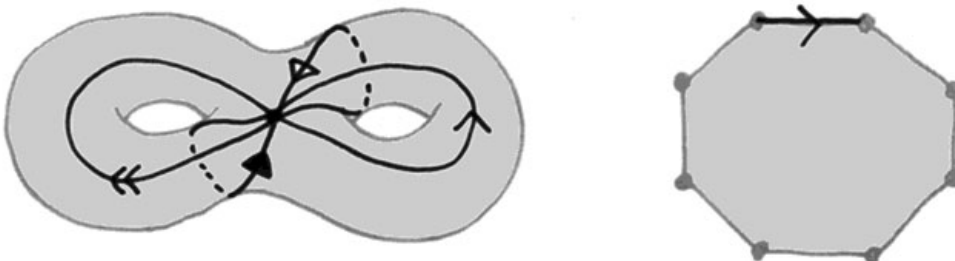
[1] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
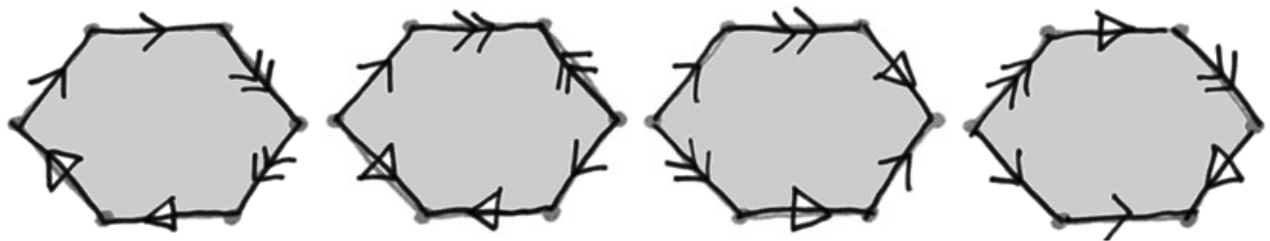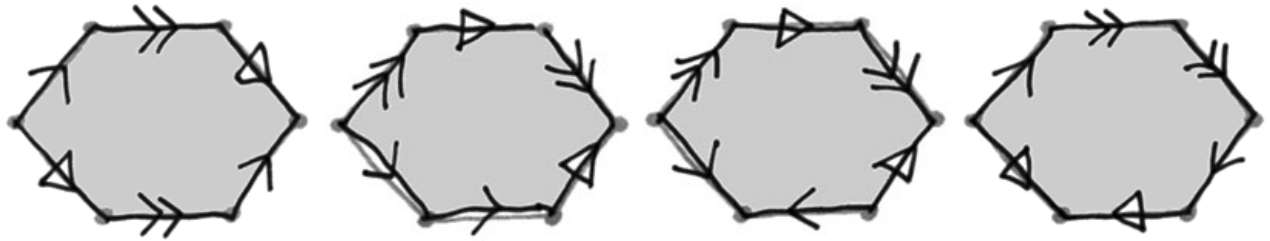

[2] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.

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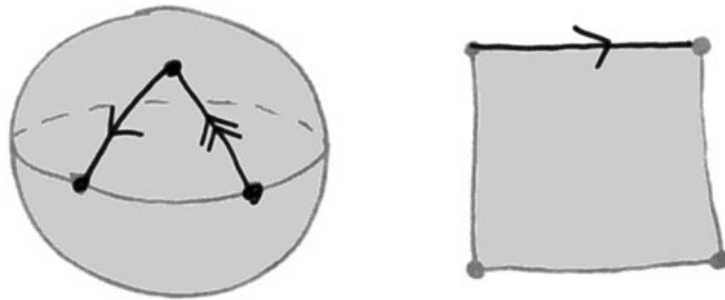
First Exam KB

Surfaces and Knots, Dave Bayer, February 21, 2002
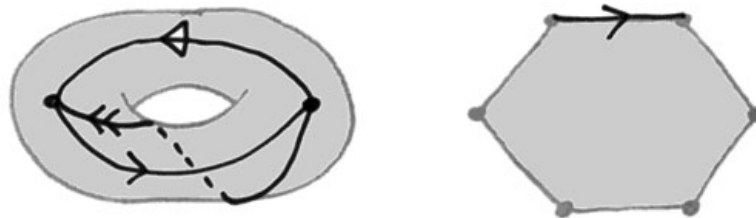
Name: _____   **School:** _____

	[1]	**[2]**	**[3]**	**[4]**	**[5]**	**TOTAL**

   You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.
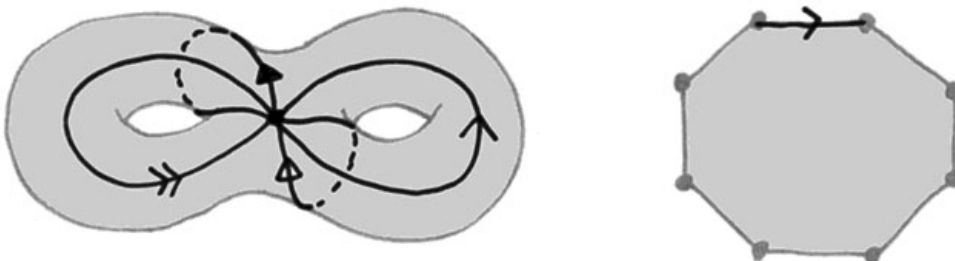
[1] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
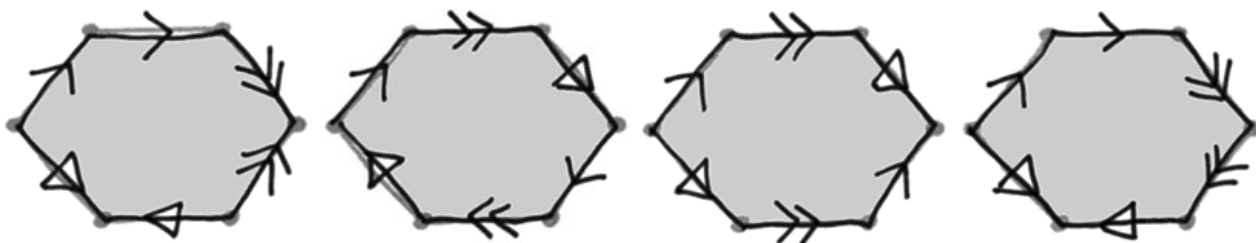

[2] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
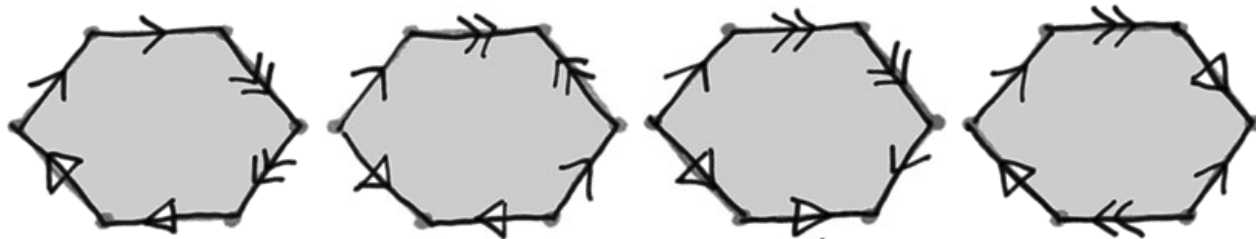

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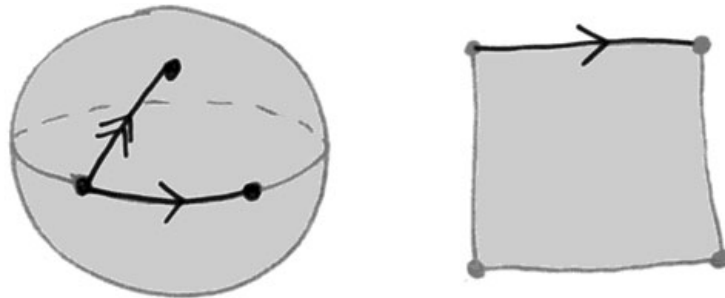
First Exam KC

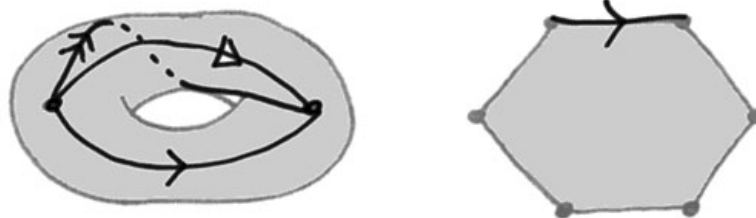Surfaces and Knots, Dave Bayer, February 21, 2002

Name: _____ **School:** _____

[1]	[2]	[3]	[4]	[5]	**TOTAL**

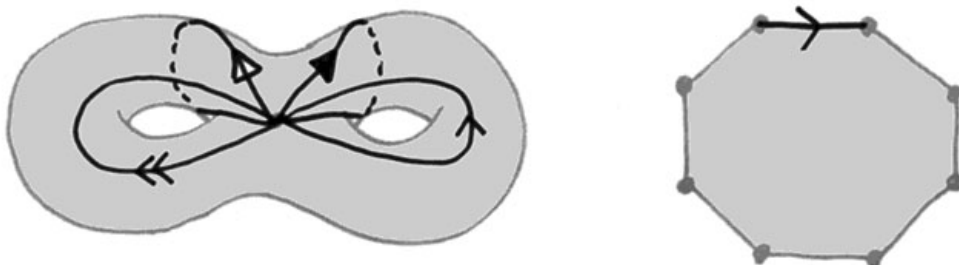You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.

[1] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
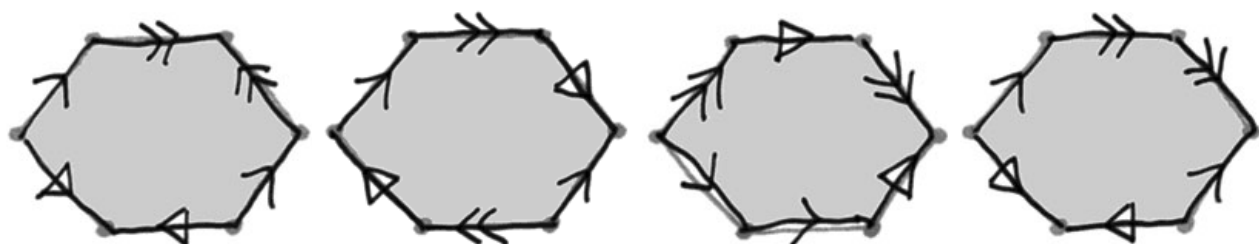

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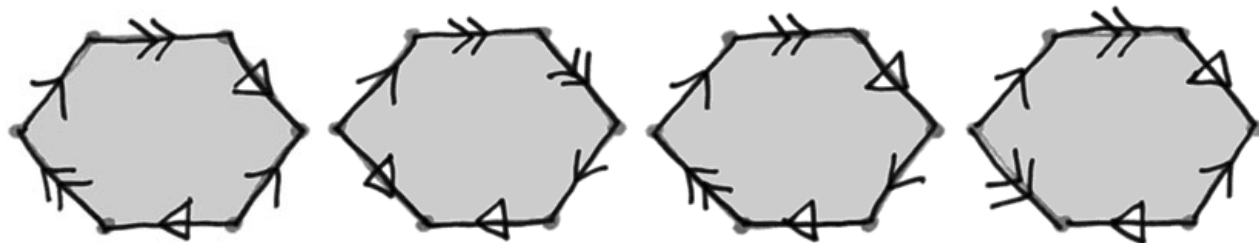
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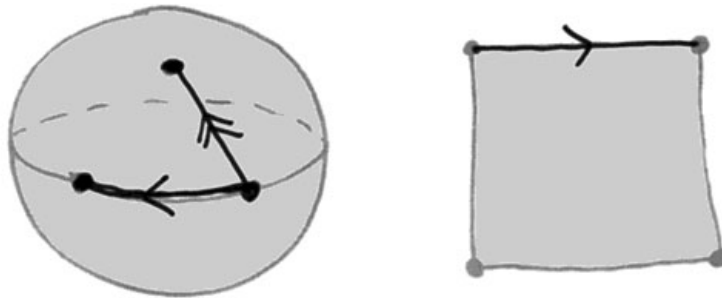
First Exam KD

Surfaces and Knots, Dave Bayer, February 21, 2002

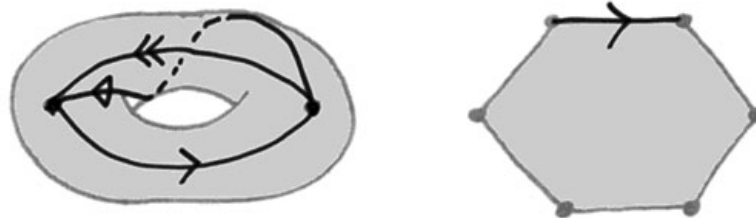**Name:** ⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯ **School:** ⎯⎯⎯⎯⎯⎯⎯

[1]	[2]	[3]	[4]	[5]	TOTAL

You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.
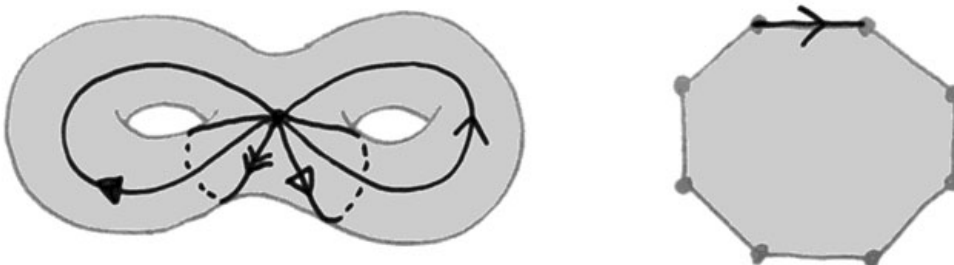
[1] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
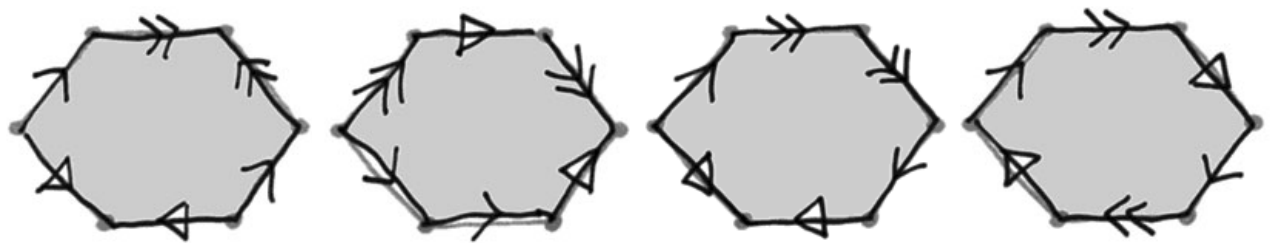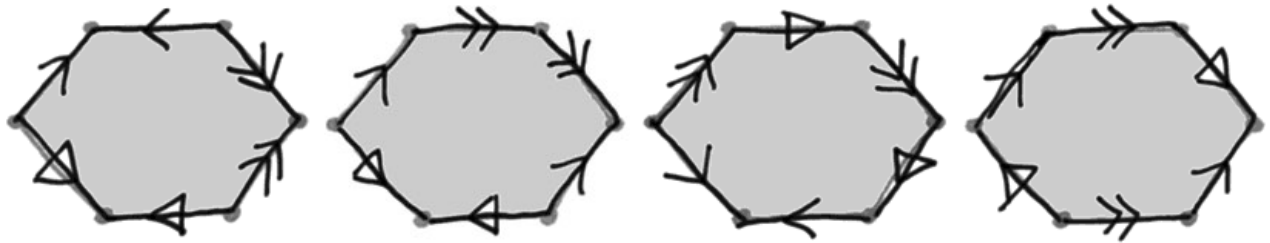

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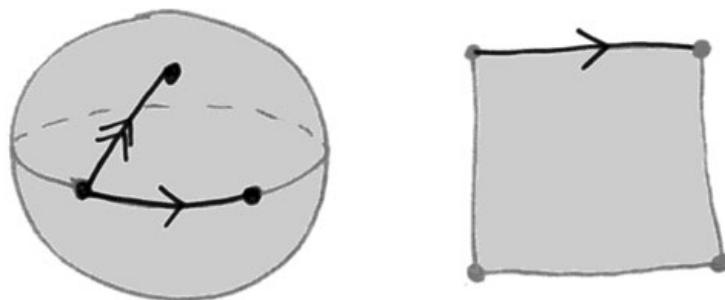
First Exam KE

Surfaces and Knots, Dave Bayer, February 21, 2002
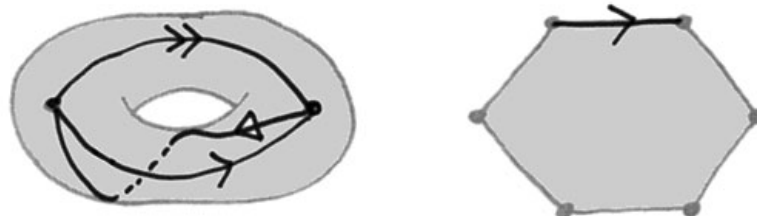
Name: _____ **School:** _____

[1]	[2]	[3]	[4]	[5]	**TOTAL**

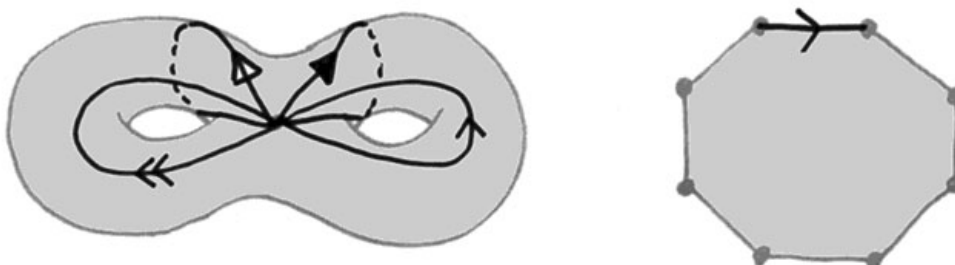You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.

[1] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
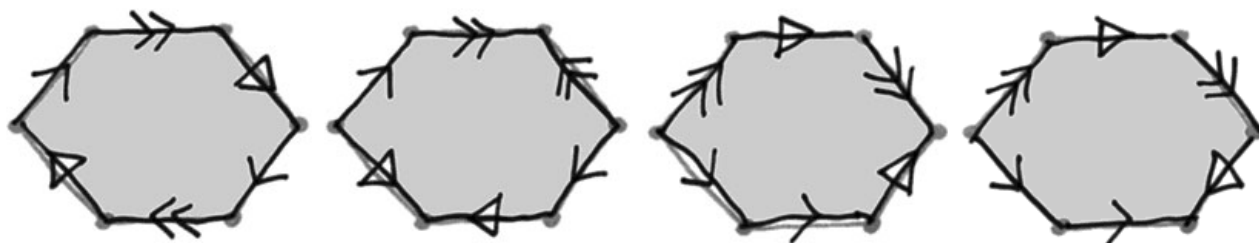

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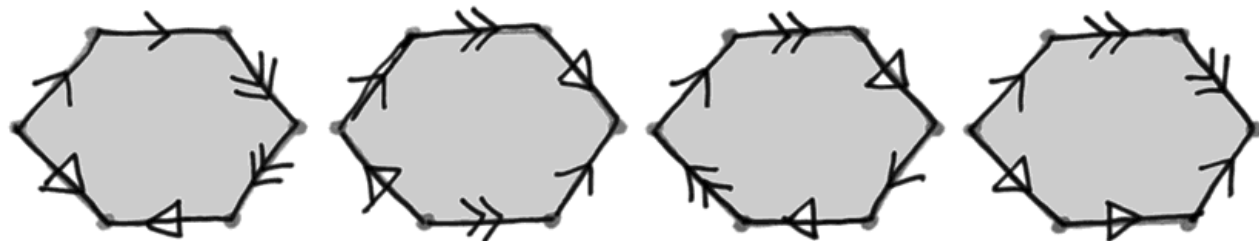
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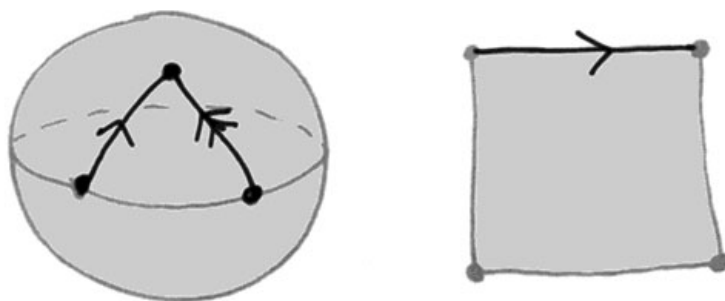
First Exam KF

Surfaces and Knots, Dave Bayer, February 21, 2002
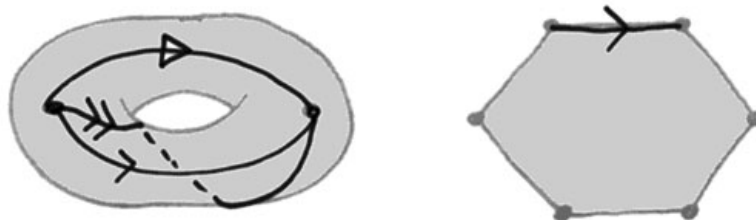
Name: _____ **School:** _____

[1]	[2]	[3]	[4]	[5]	TOTAL

You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.
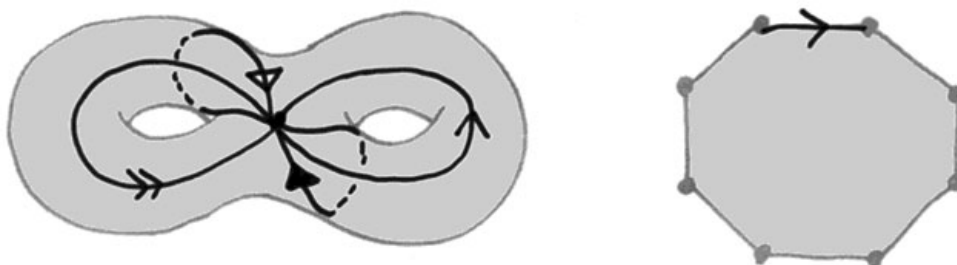
[1] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
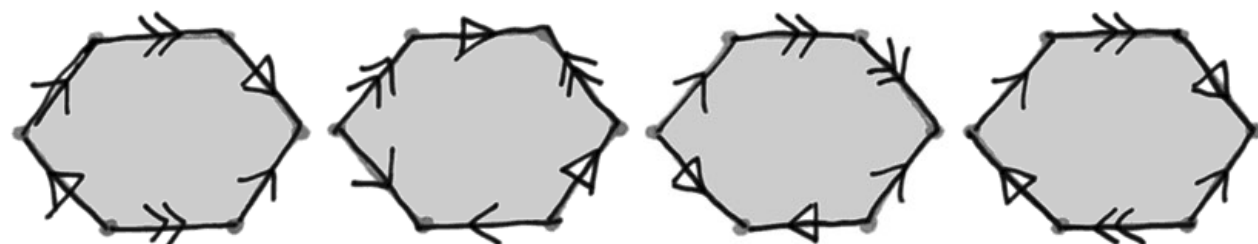

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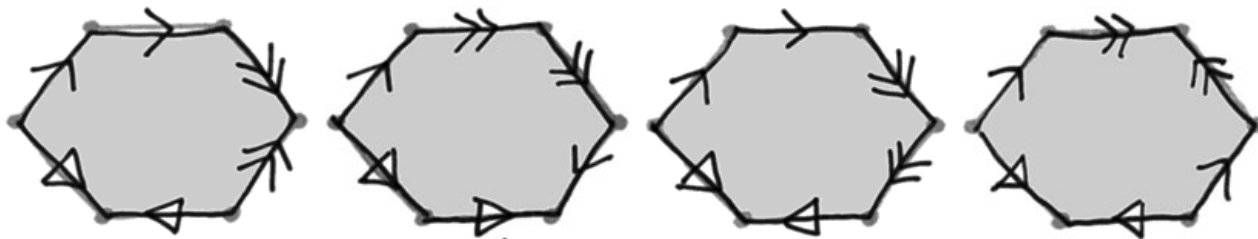
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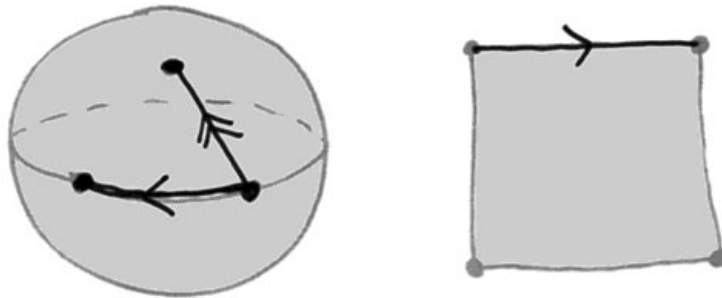
First Exam KG

Surfaces and Knots, Dave Bayer, February 21, 2002
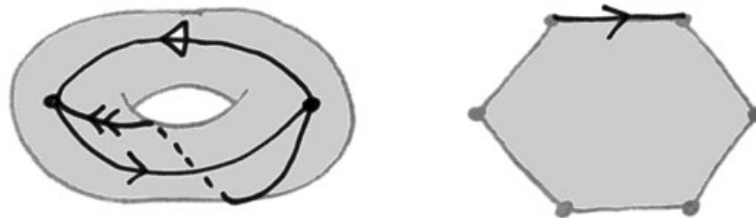
Name: _____   **School:** _____

[1]	[2]	[3]	[4]	[5]	**TOTAL**

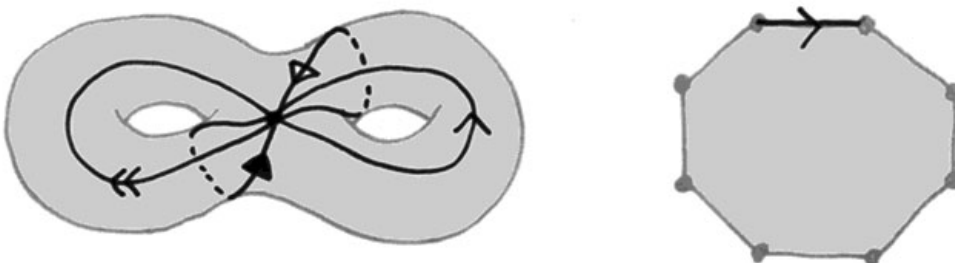You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.

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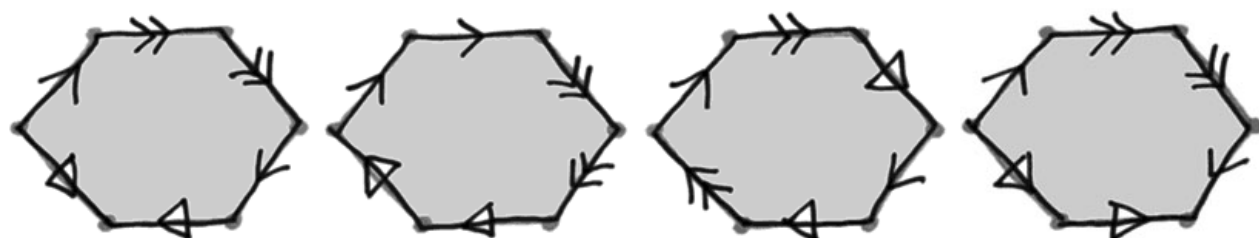

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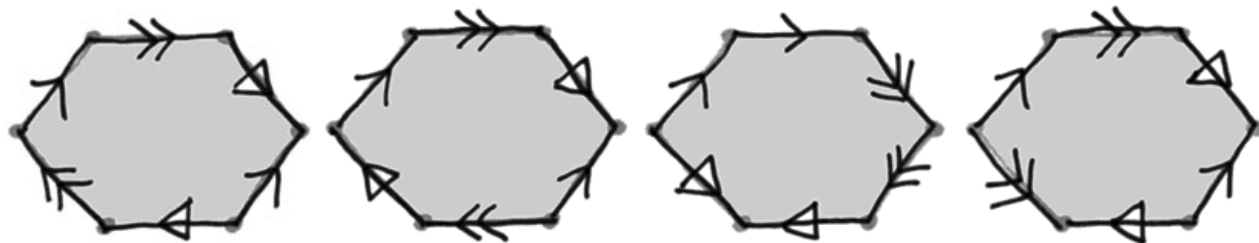
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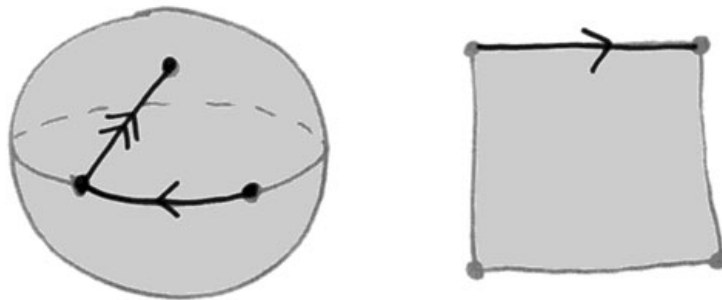
First Exam KH

Surfaces and Knots, Dave Bayer, February 21, 2002
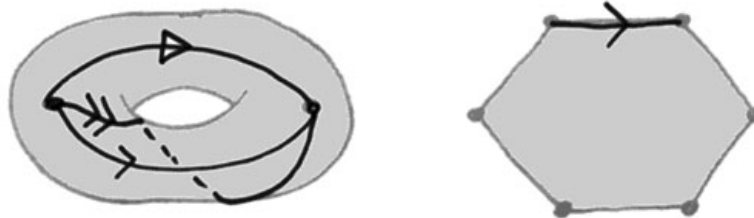
Name: _____ **School:** _____

[1]	[2]	[3]	[4]	[5]	TOTAL

You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.
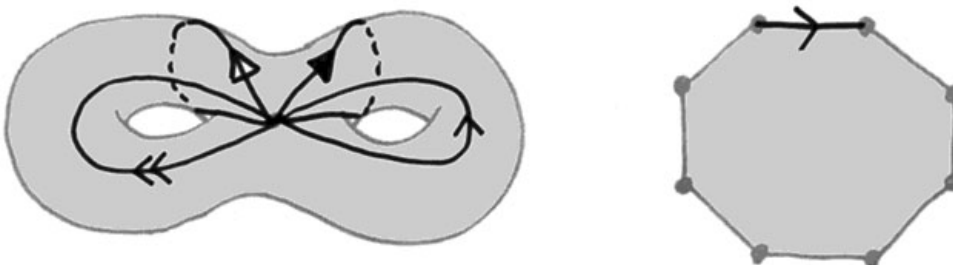
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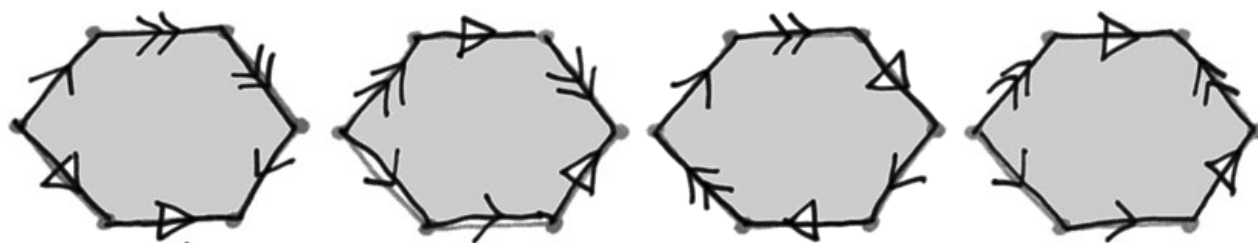
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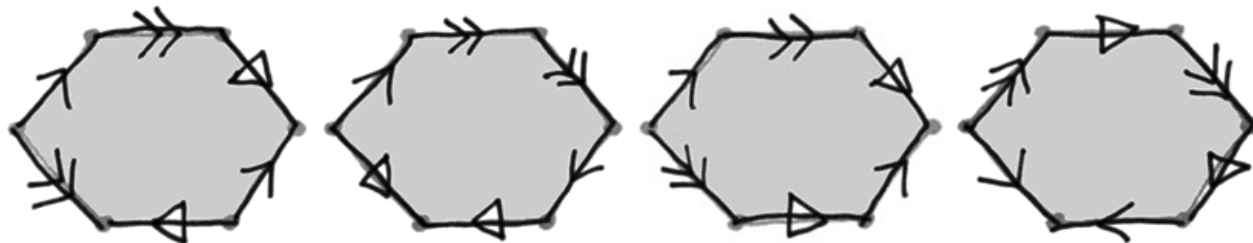
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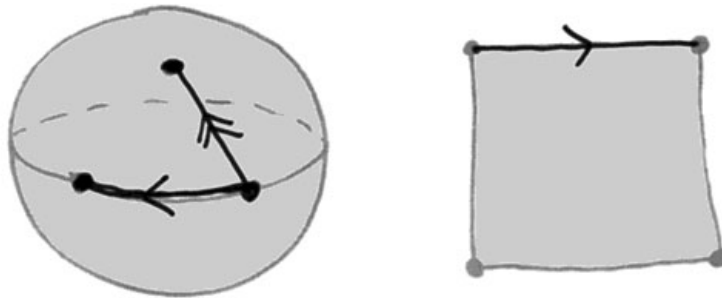
First Exam KI
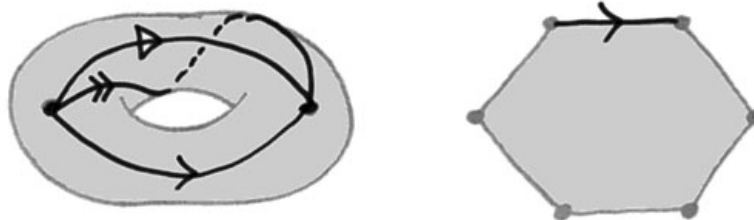
Surfaces and Knots, Dave Bayer, February 21, 2002

Name: ——————————————————— **School:** —————

[1]	**[2]**	**[3]**	**[4]**	**[5]**	**TOTAL**

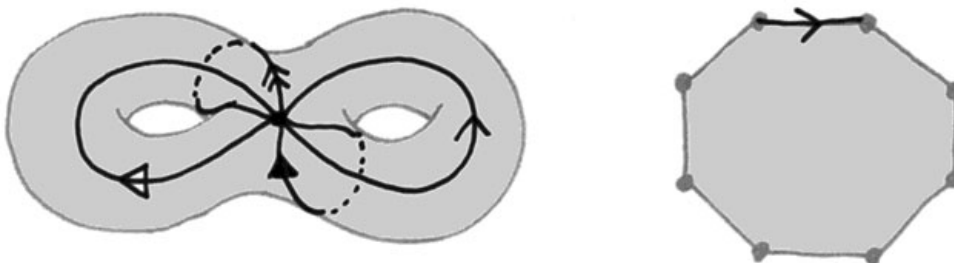You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.

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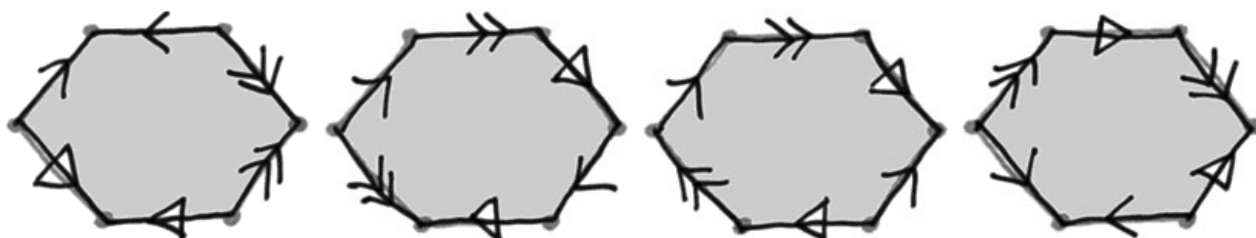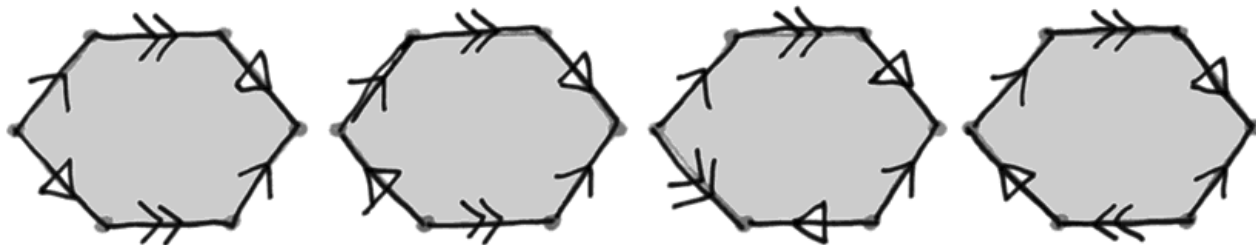
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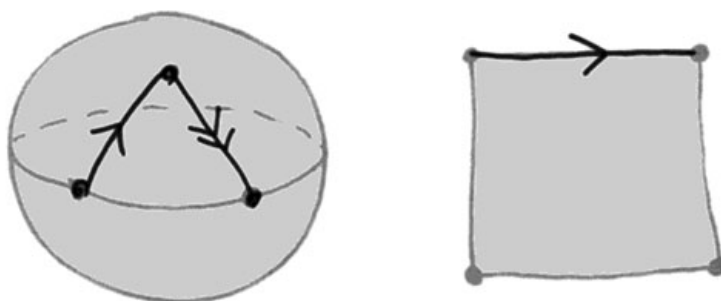
First Exam KJ

Surfaces and Knots, Dave Bayer, February 21, 2002
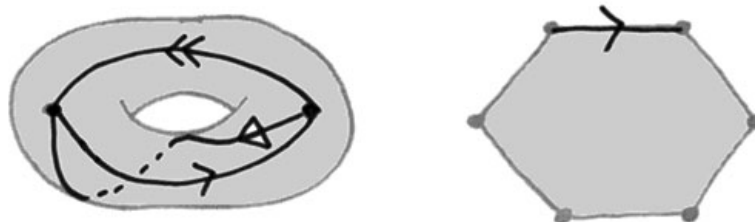
Name: _____   **School:** _____

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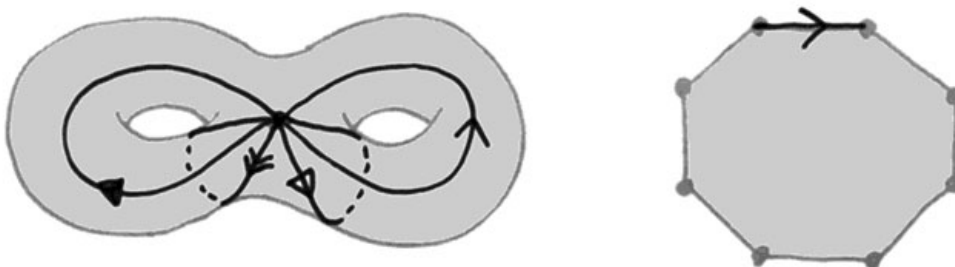
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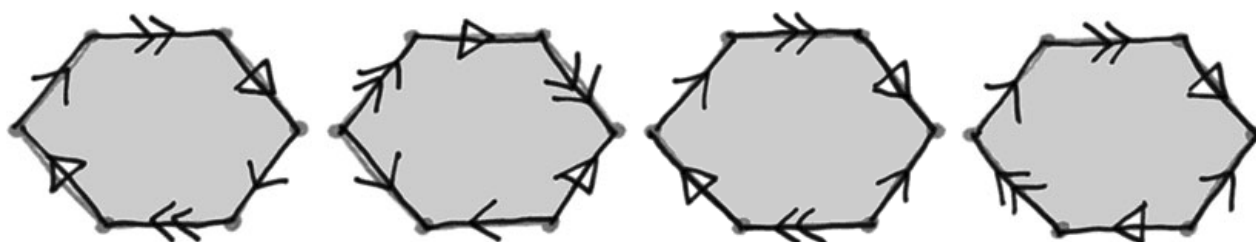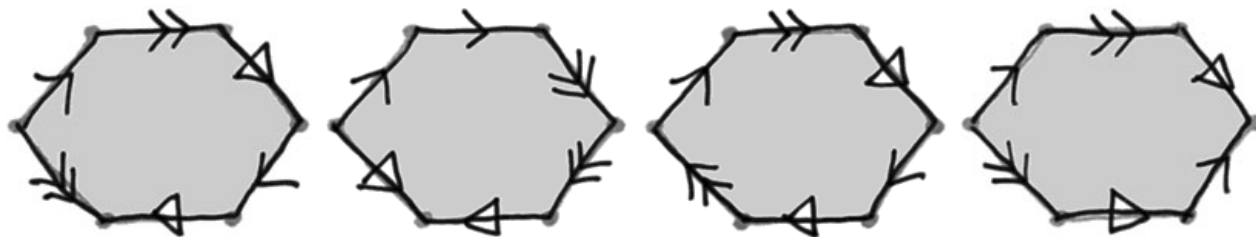
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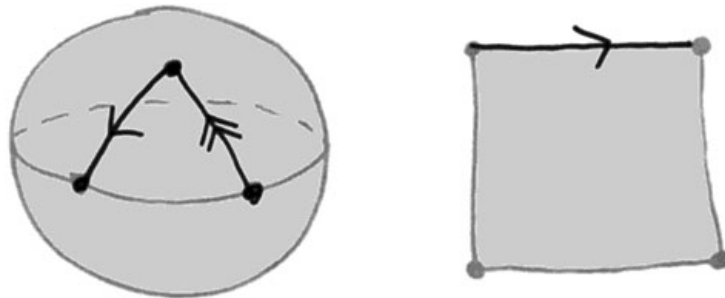
First Exam KK
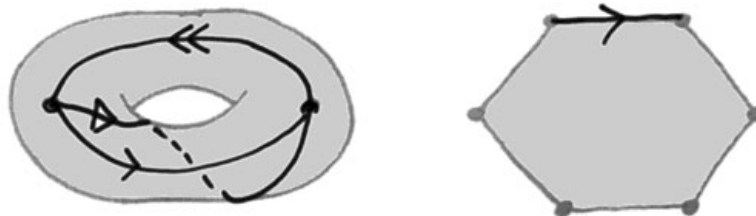
Surfaces and Knots, Dave Bayer, February 21, 2002

Name: ───────────────────────── **School:** ──────────

[1]	**[2]**	**[3]**	**[4]**	**[5]**	**TOTAL**

    You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.
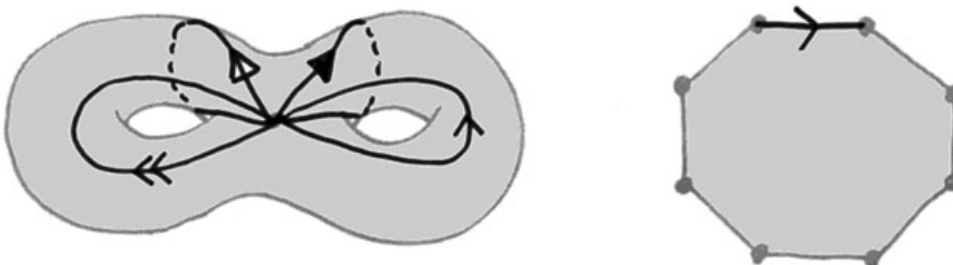
[1] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.

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[3] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
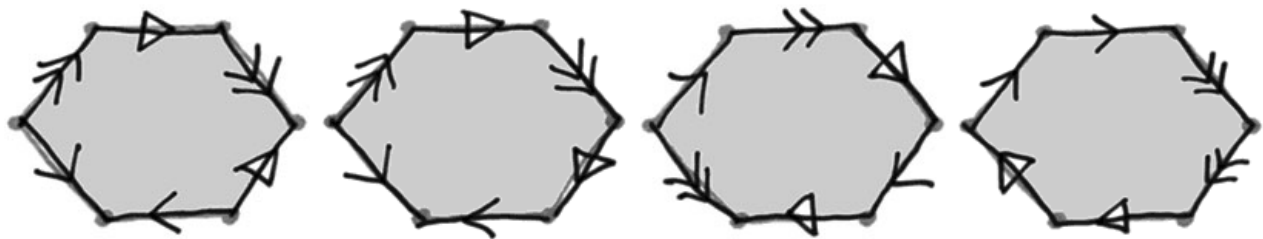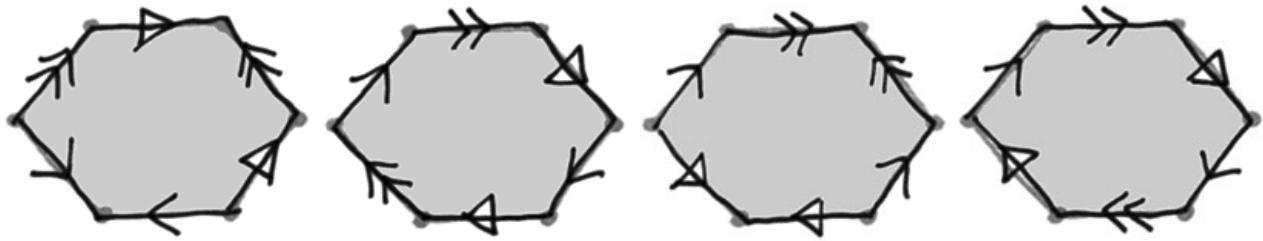
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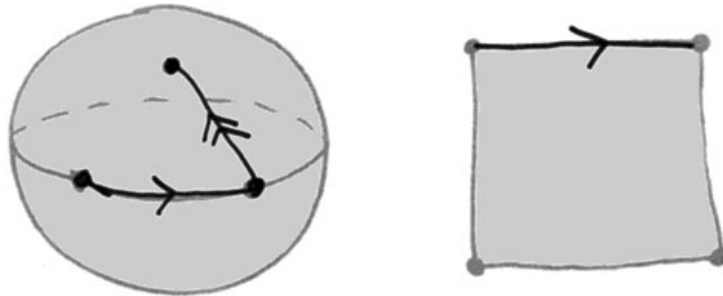
First Exam KL

Surfaces and Knots, Dave Bayer, February 21, 2002
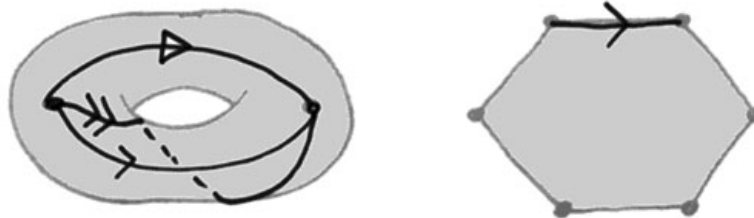
Name: _____   **School:** _____

[1]	[2]	[3]	[4]	[5]	TOTAL

    You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.
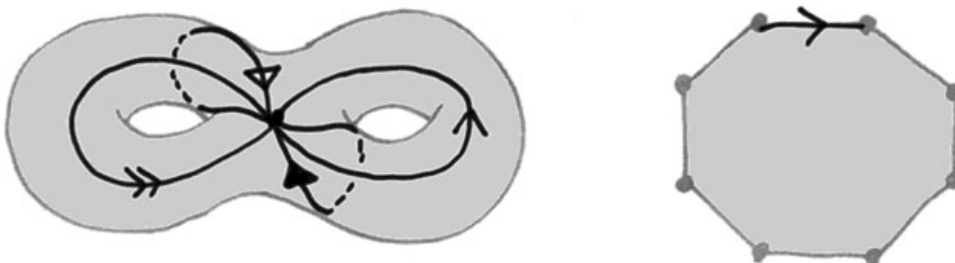
[1] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
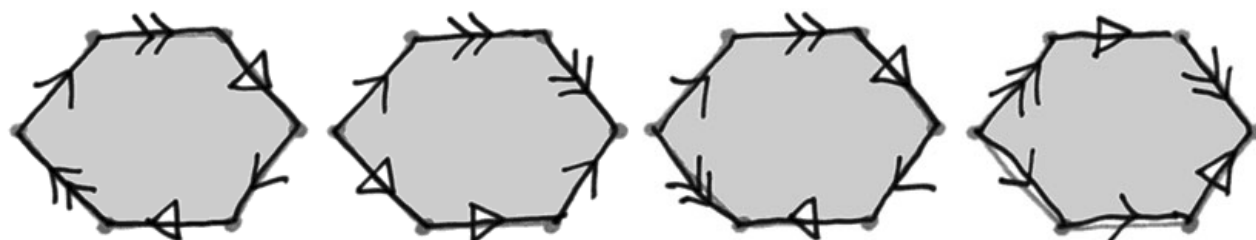

[2] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
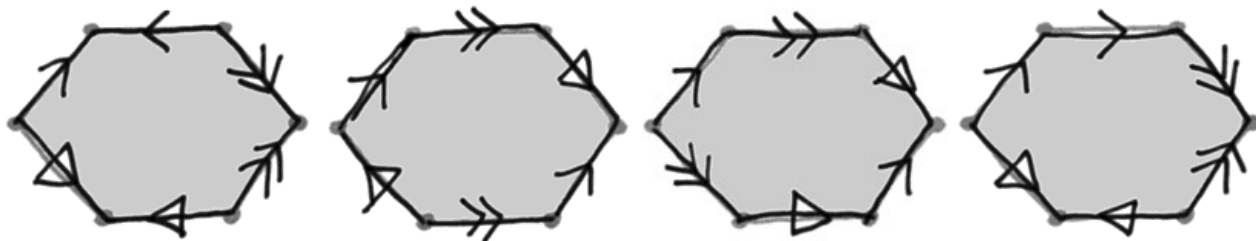

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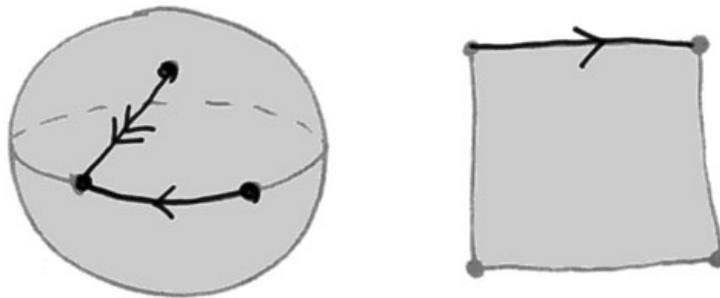
First Exam KM

Surfaces and Knots, Dave Bayer, February 21, 2002
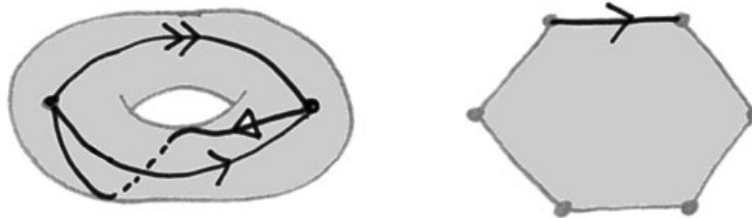
Name: _____   **School:** _____

[1]	[2]	[3]	[4]	[5]	TOTAL

You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.
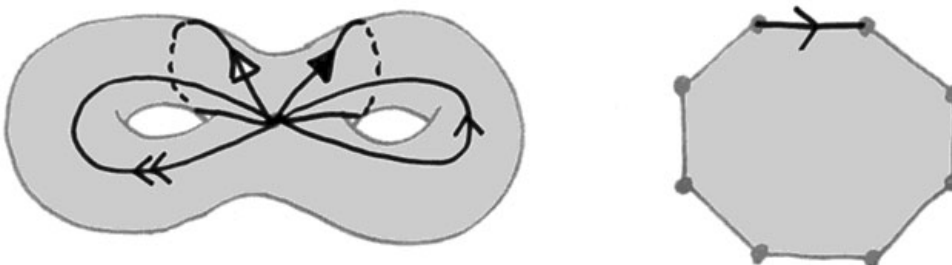
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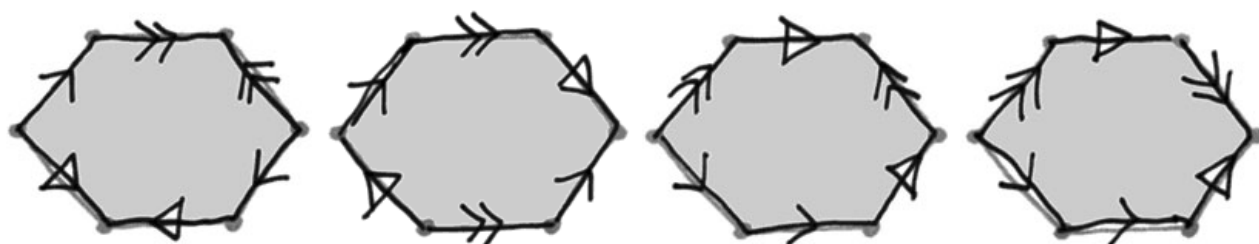

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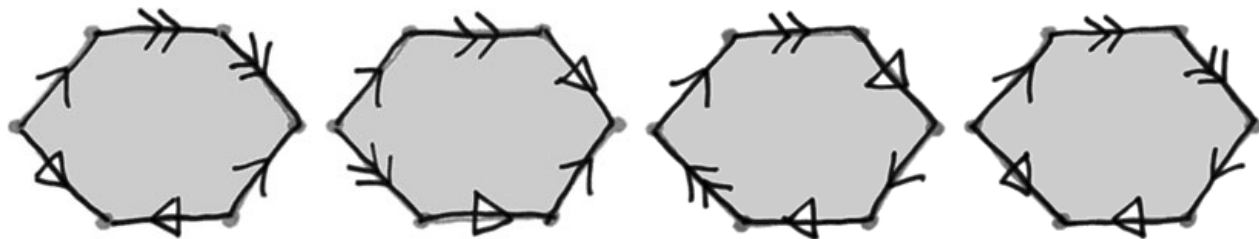
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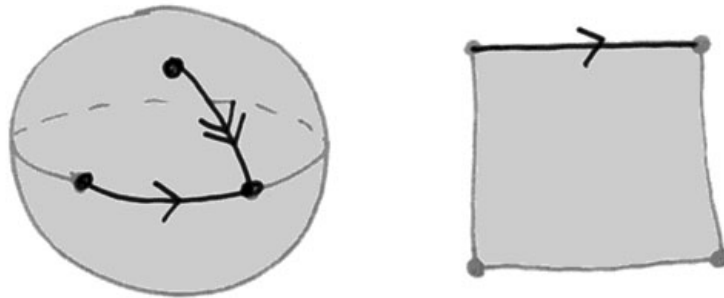
First Exam KN
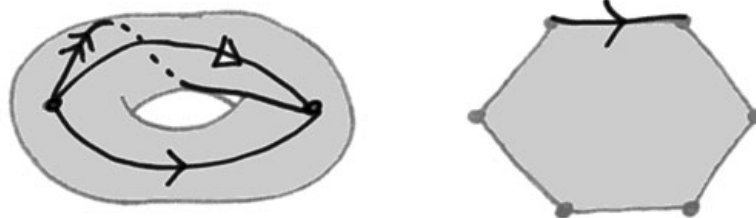
Surfaces and Knots, Dave Bayer, February 21, 2002

Name: ———————————————— **School:** —————

[1]	[2]	[3]	[4]	[5]	**TOTAL**

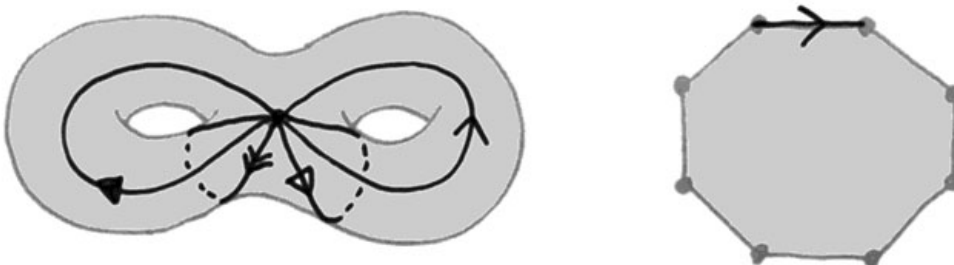You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.

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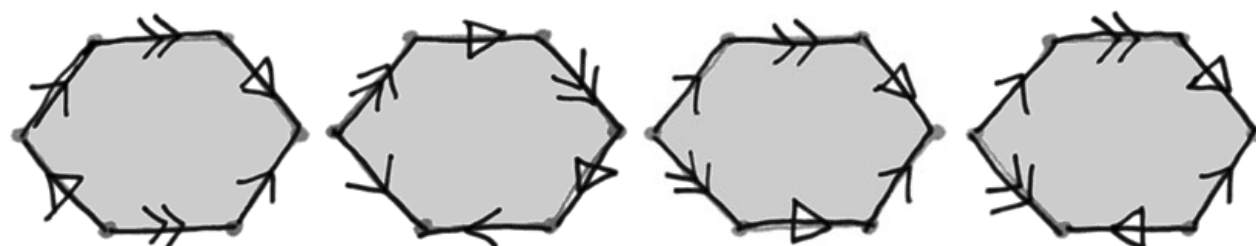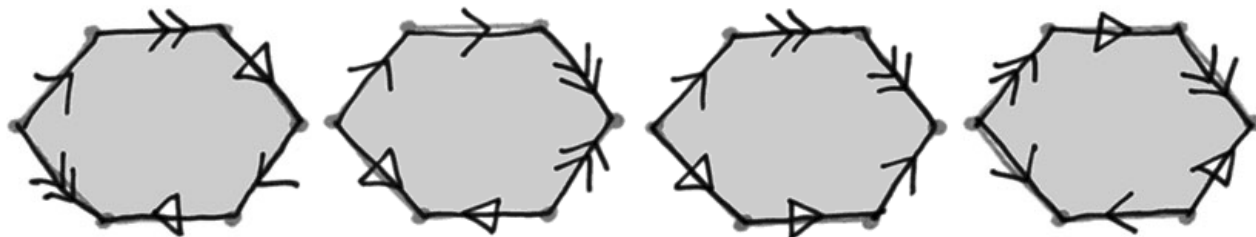
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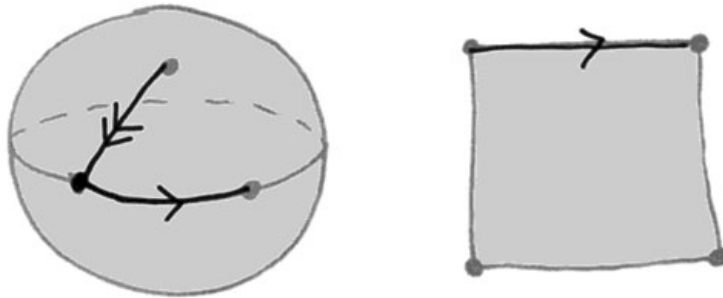
First Exam LA
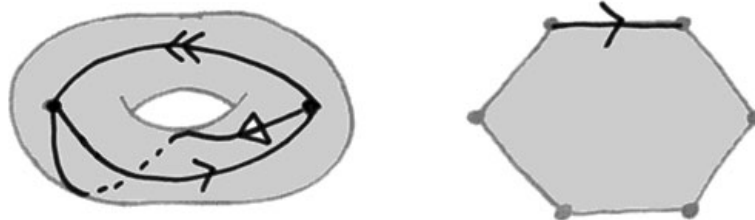
Surfaces and Knots, Dave Bayer, February 21, 2002

Name: ———————————————————————— **School:** ——————————

[1]	**[2]**	**[3]**	**[4]**	**[5]**	**TOTAL**

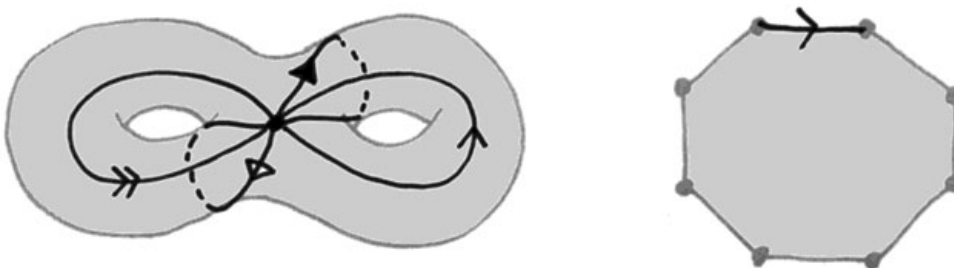You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.

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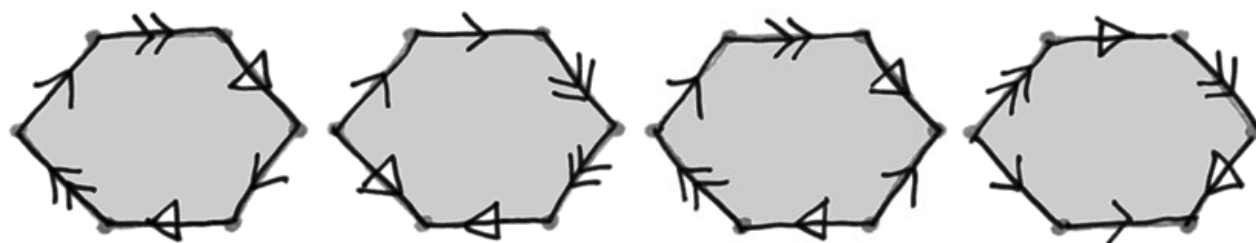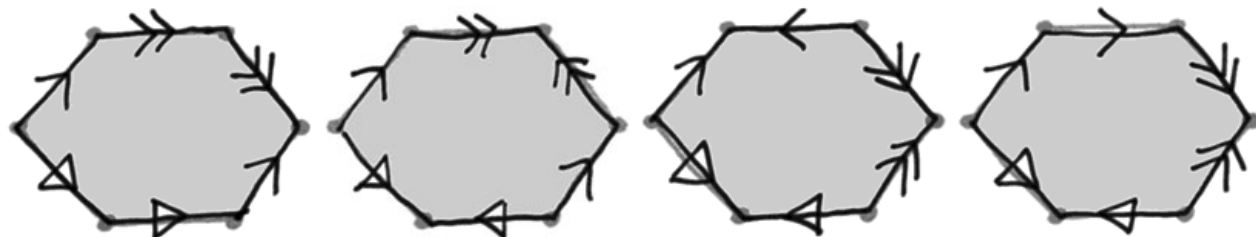
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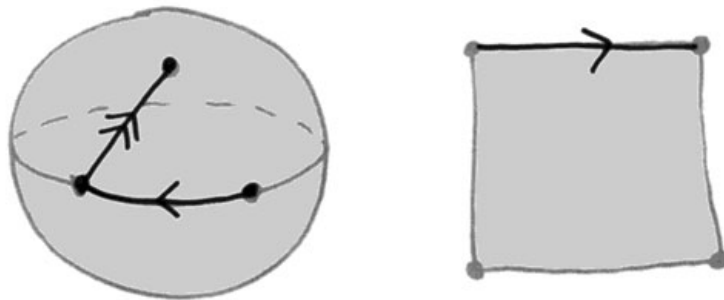
First Exam LB
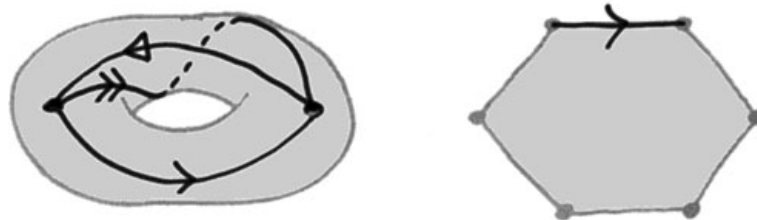
Surfaces and Knots, Dave Bayer, February 21, 2002

Name: ———————————————————— **School:** —————

[1]	[2]	[3]	[4]	[5]	**TOTAL**

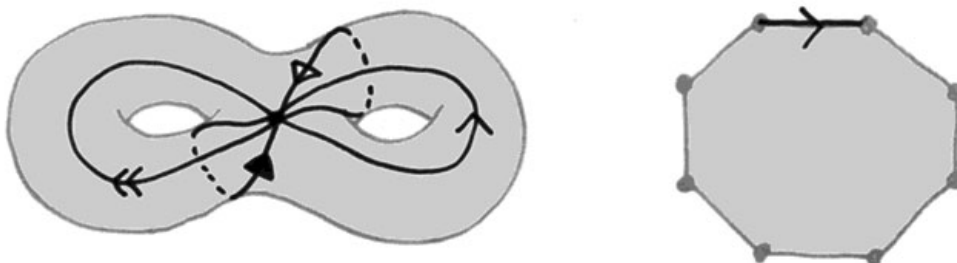You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.

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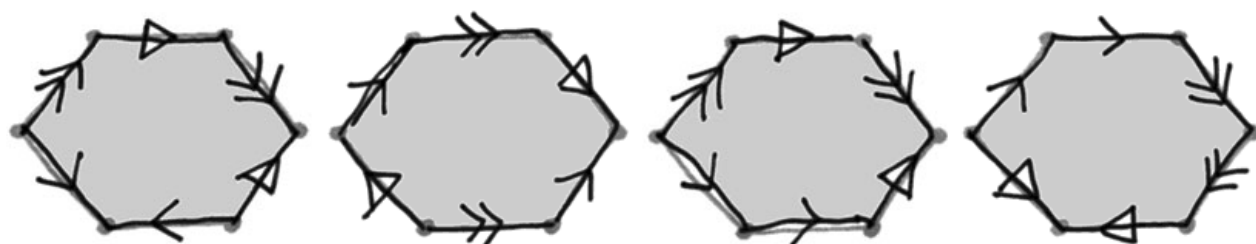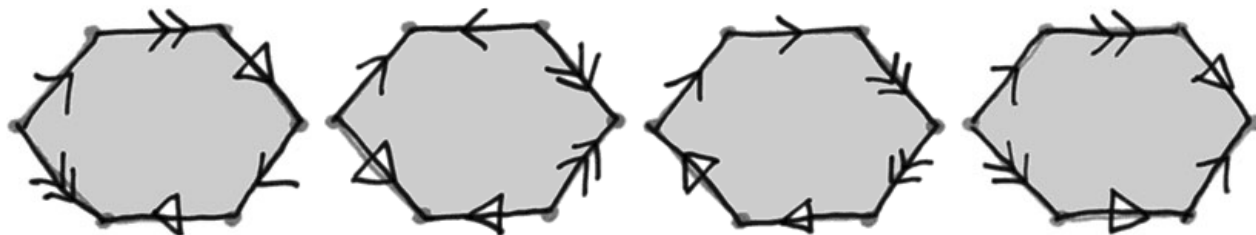

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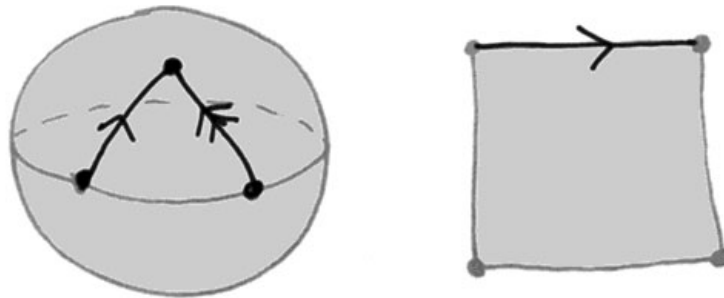
First Exam LC

Surfaces and Knots, Dave Bayer, February 21, 2002
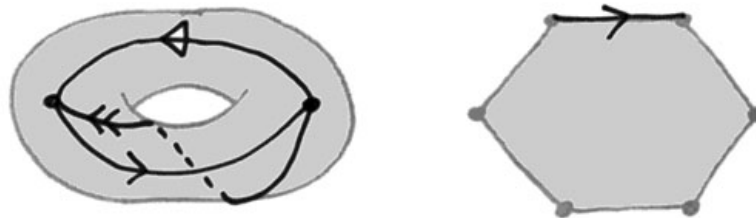
Name: _____   **School:** _____

[1]	[2]	[3]	[4]	[5]	TOTAL

You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.
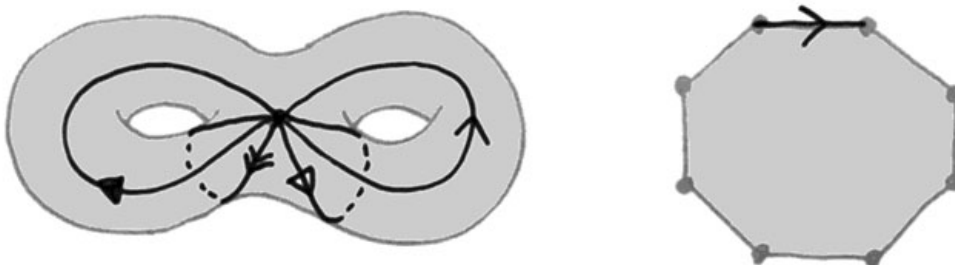
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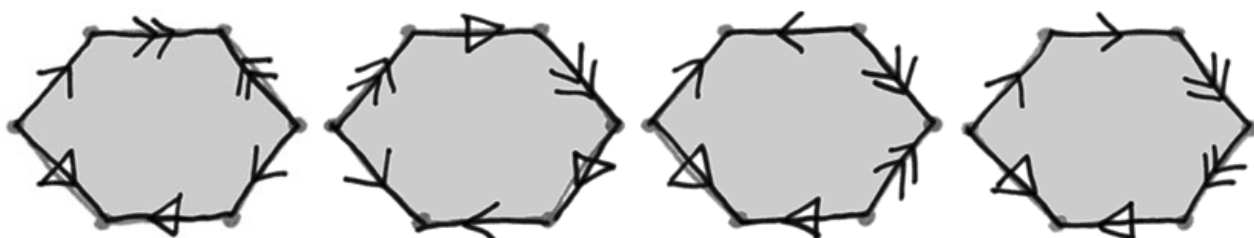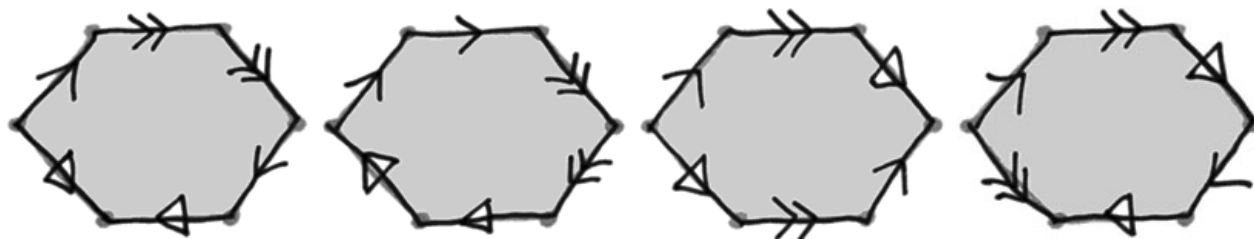
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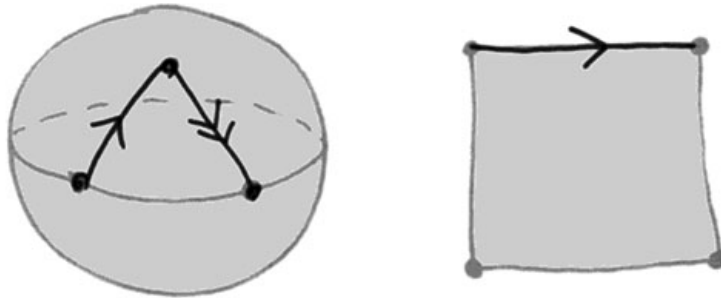
First Exam LD

Surfaces and Knots, Dave Bayer, February 21, 2002
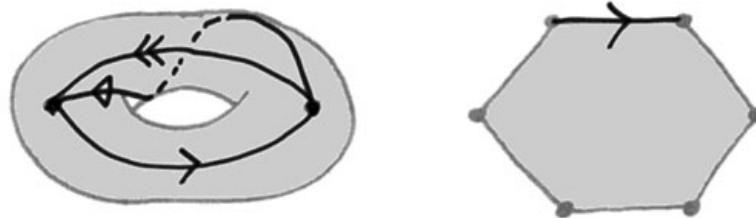
Name: _____ **School:** _____

[1]	**[2]**	**[3]**	**[4]**	**[5]**	**TOTAL**

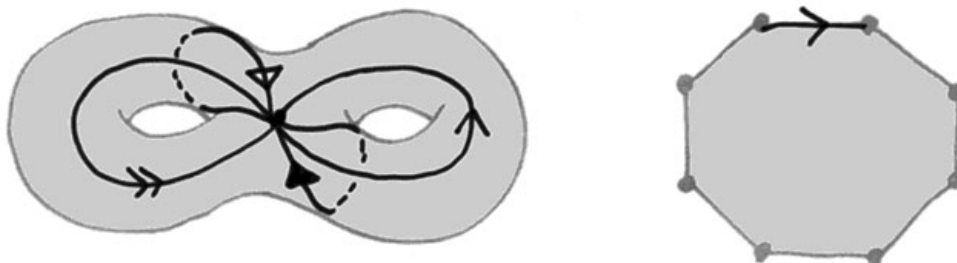You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.

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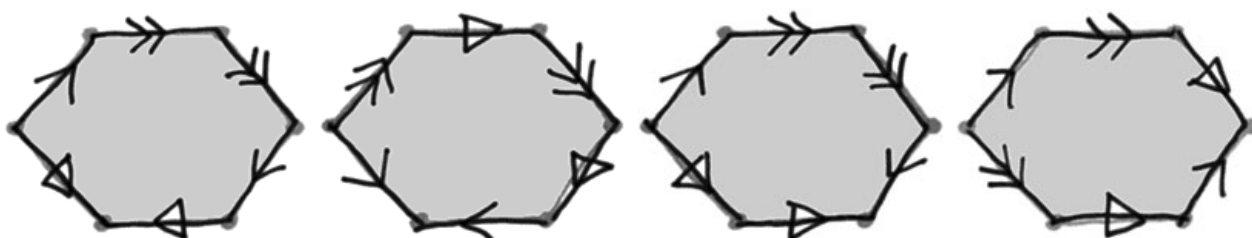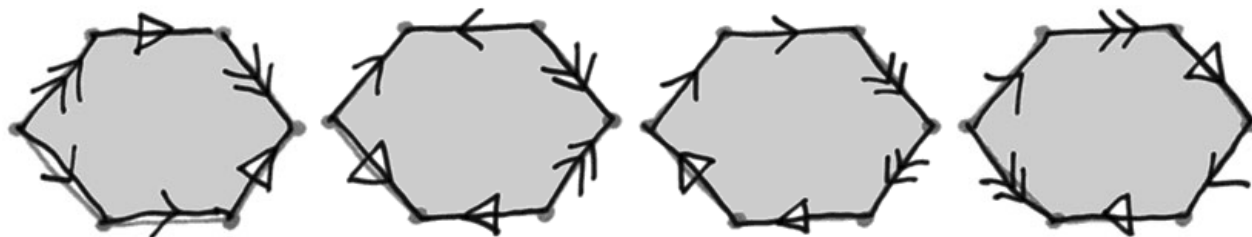
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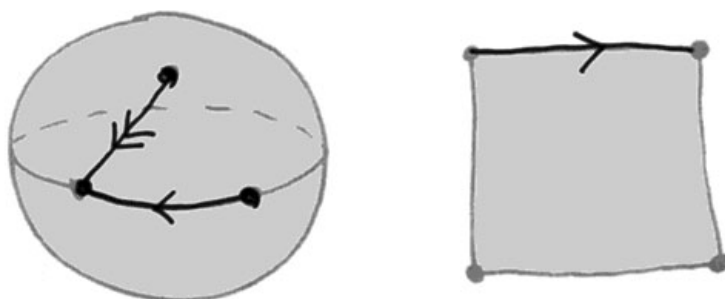
First Exam LE

Surfaces and Knots, Dave Bayer, February 21, 2002
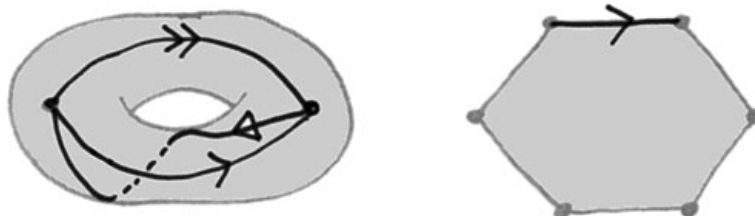
Name: _____   **School:** _____

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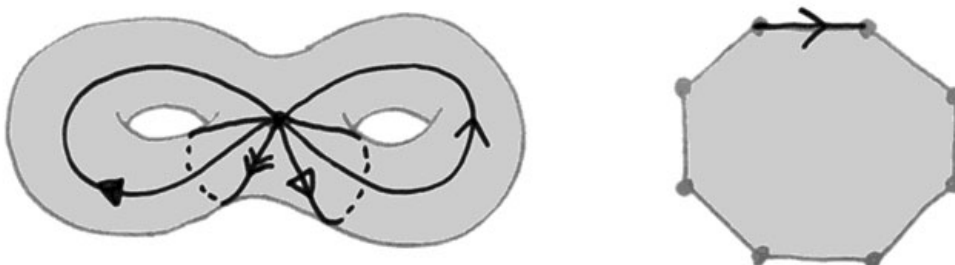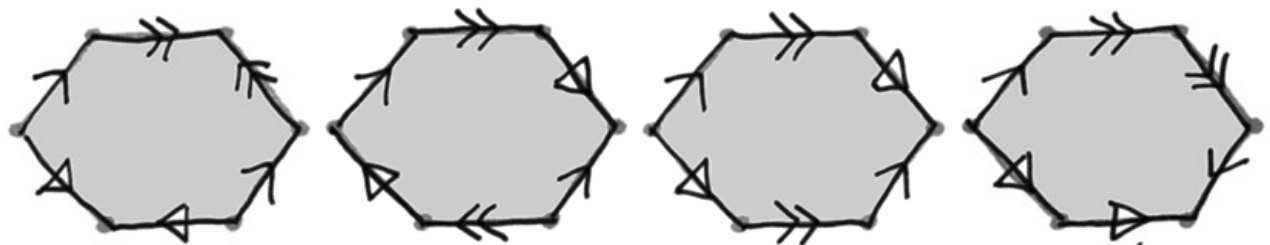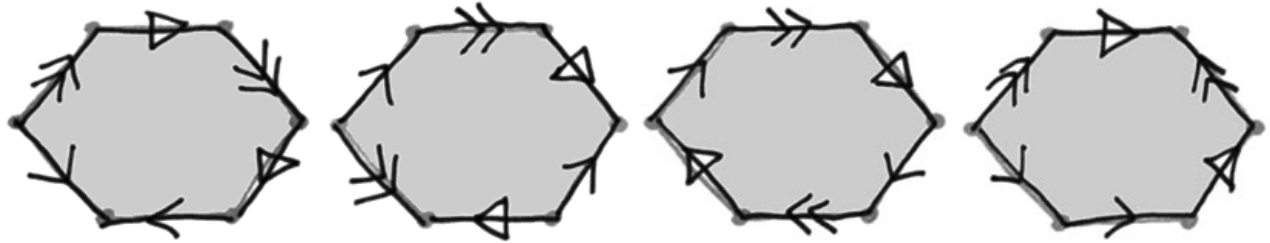

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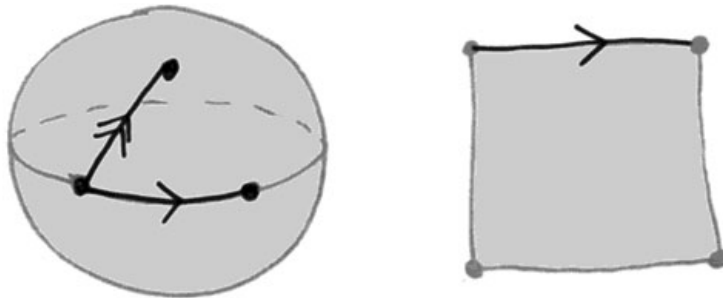
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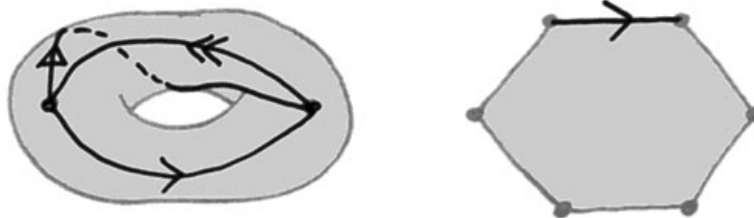
Surfaces and Knots, Dave Bayer, February 21, 2002

Name: ─────────────────────── **School:** ─────────

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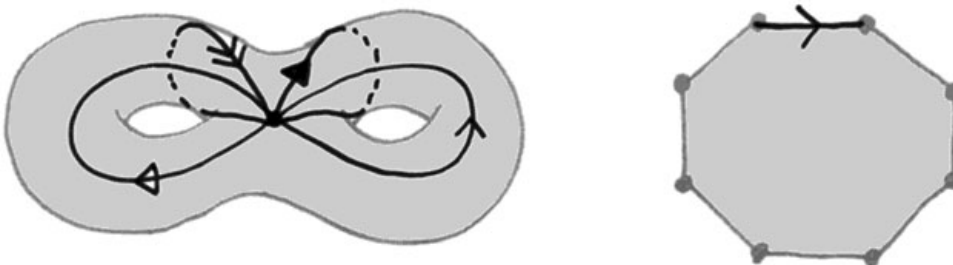
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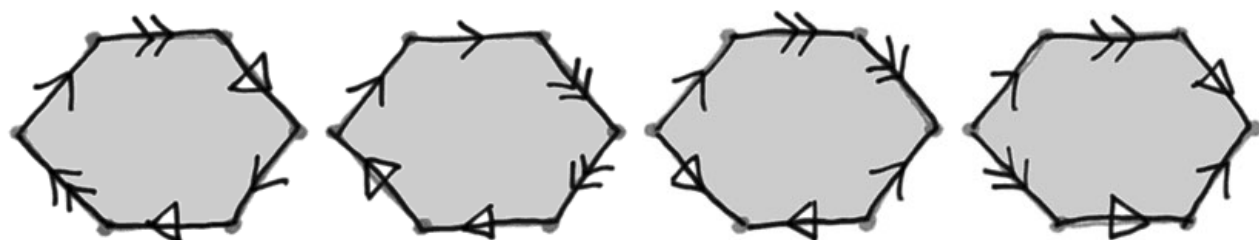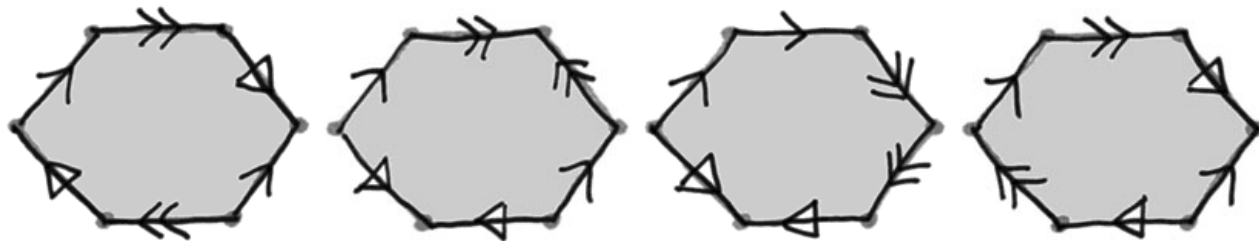

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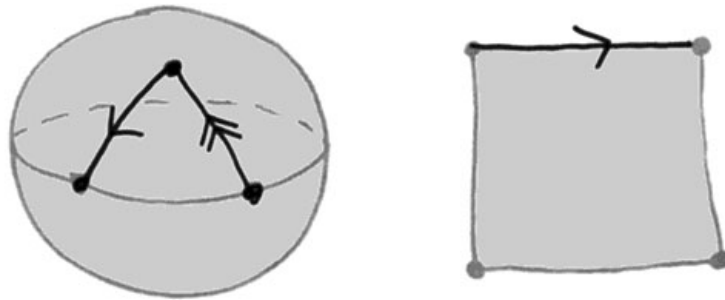
First Exam LG
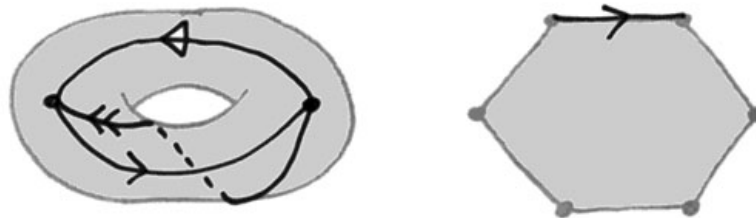
Surfaces and Knots, Dave Bayer, February 21, 2002

Name: ⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯ **School:** ⎯⎯⎯⎯⎯⎯⎯⎯

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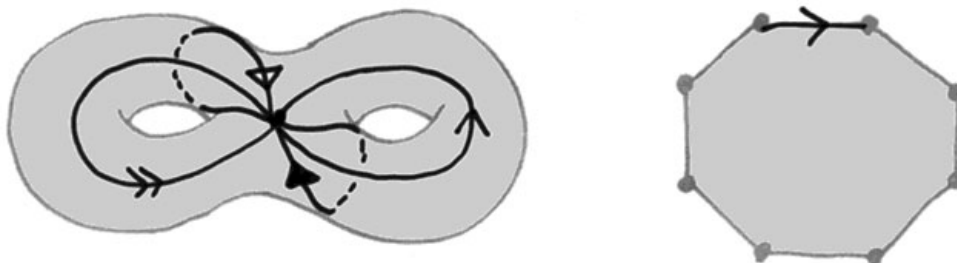

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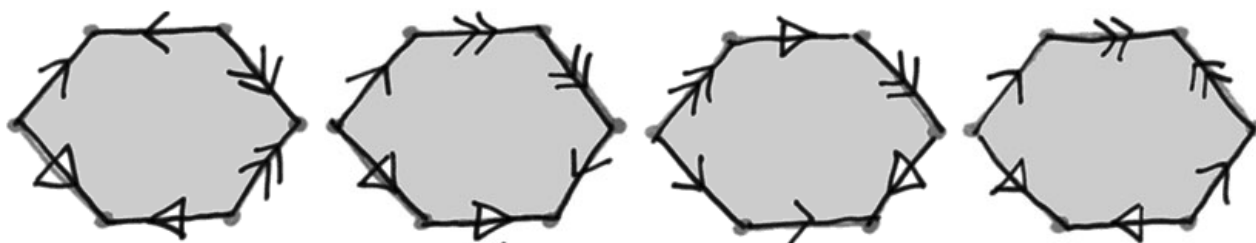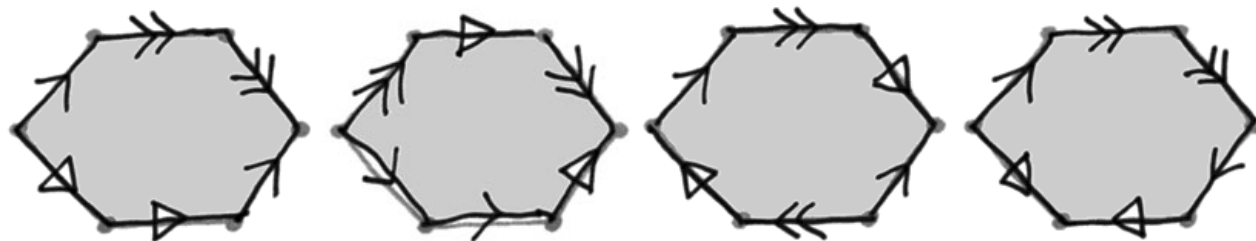
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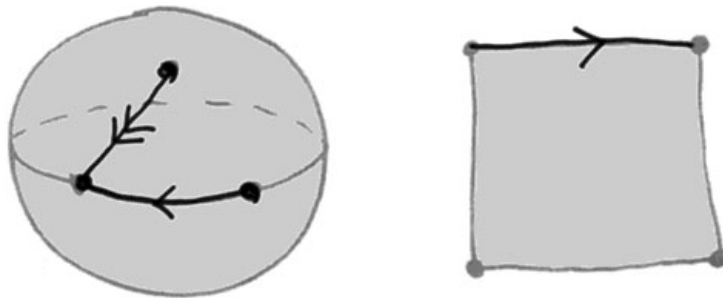
First Exam LH

Surfaces and Knots, Dave Bayer, February 21, 2002
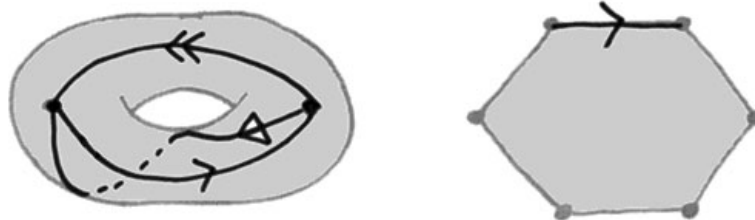
Name: _____ **School:** _____

[1]	[2]	[3]	[4]	[5]	**TOTAL**

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[1] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
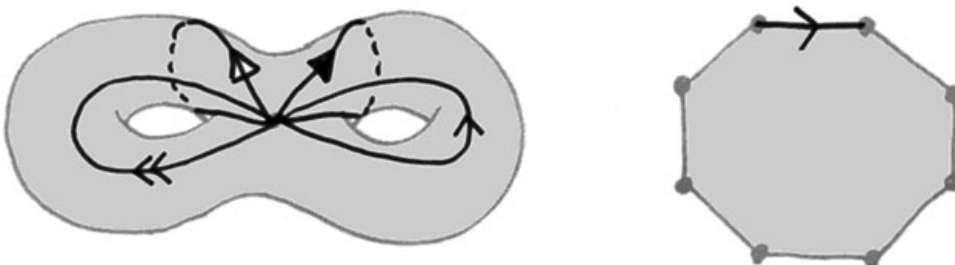

[2] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.

[3] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
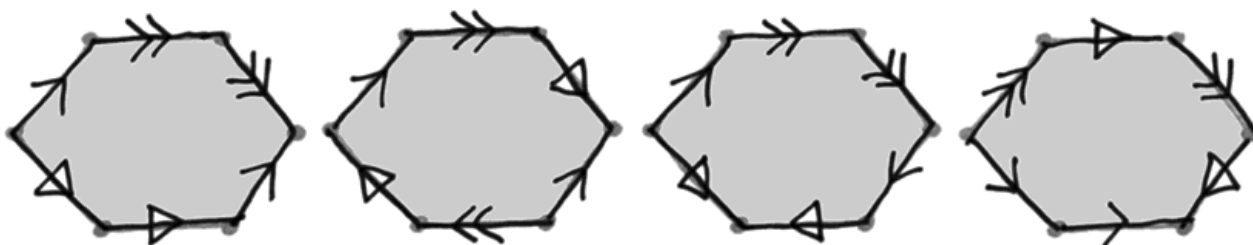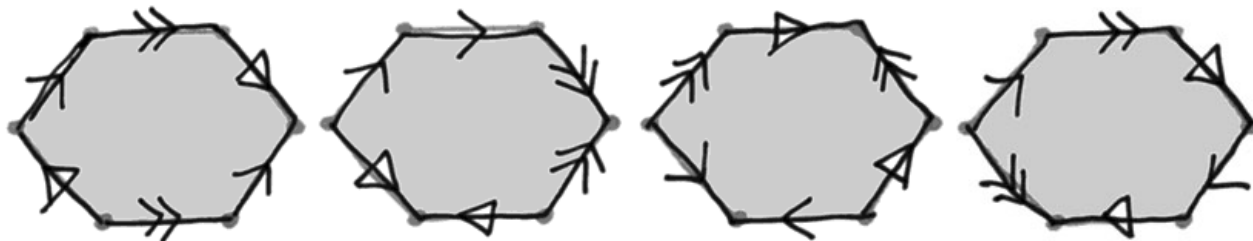
[4] Determine what surface each of the following gluing diagrams represents, by computing its Euler characteristic, and determining whether it is orientable or not.

[5] Find a pair of gluing diagrams, above, which represent the same surface. In any set of eight hexagonal gluing diagrams, why must there always be such a pair? Demonstrate that your pair represents the same surface, by modifying the diagrams until they agree.
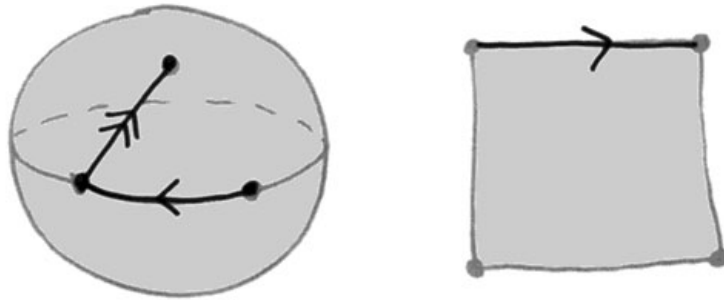
First Exam LI

Surfaces and Knots, Dave Bayer, February 21, 2002
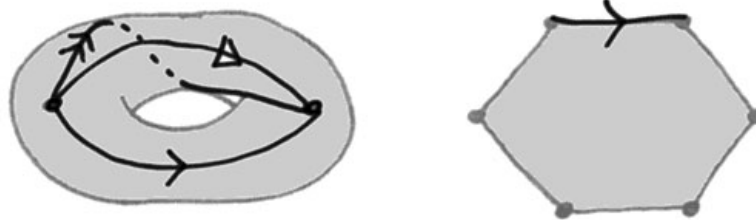
Name: _____ **School:** _____

[1]	[2]	[3]	[4]	[5]	TOTAL

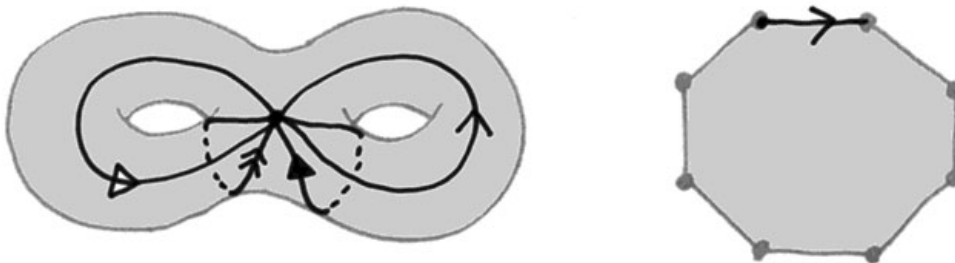You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.

[1] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.

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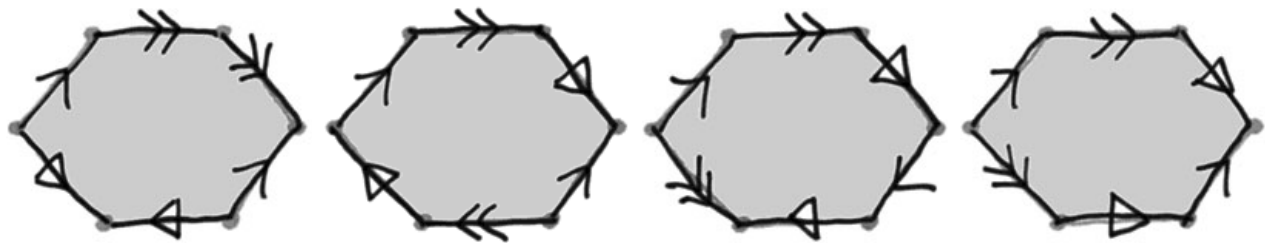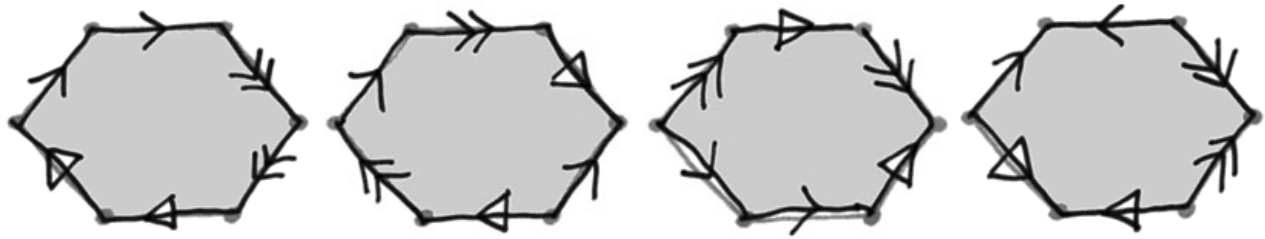

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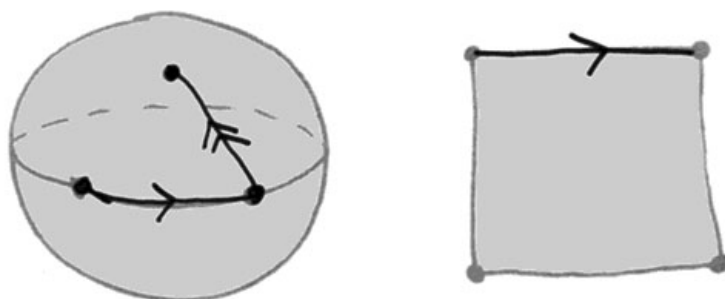
First Exam LJ
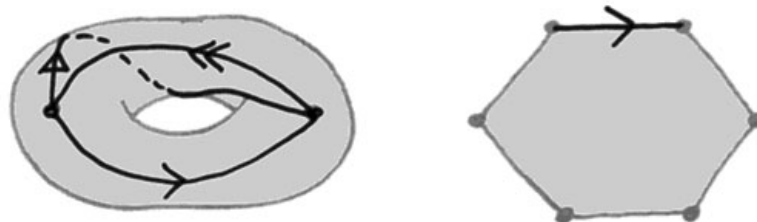
Surfaces and Knots, Dave Bayer, February 21, 2002

Name: ——————————————————— **School:** —————

[1]	[2]	[3]	[4]	[5]	**TOTAL**

You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.
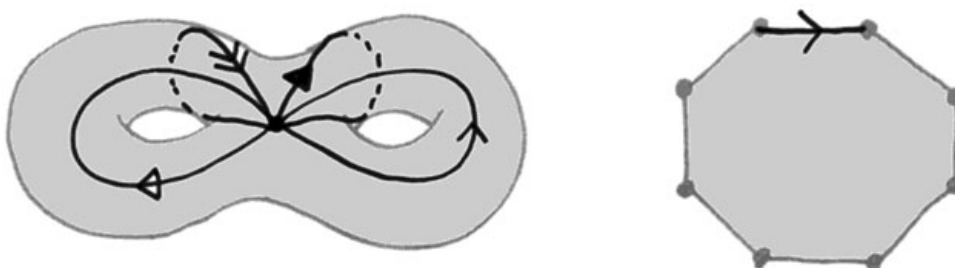
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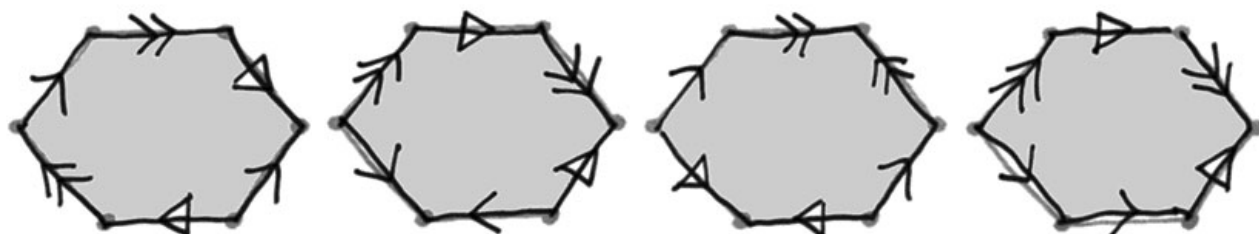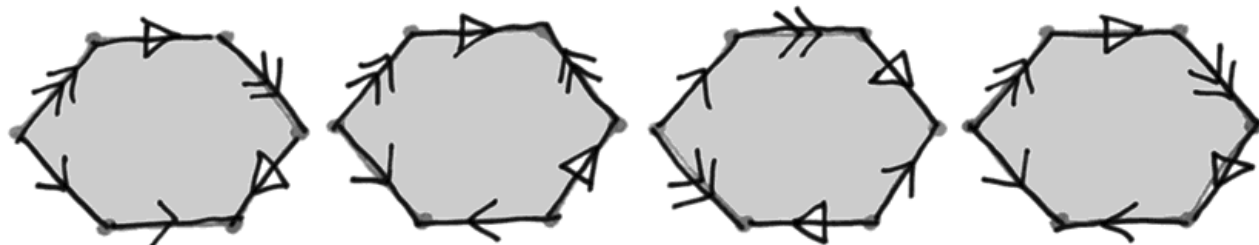
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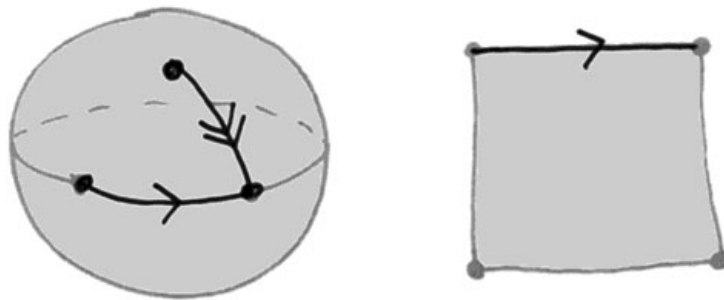
First Exam LK
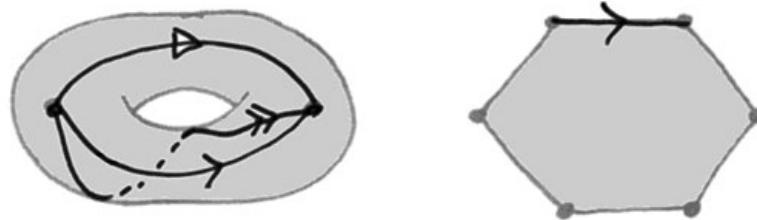
Surfaces and Knots, Dave Bayer, February 21, 2002

Name: ——————————————————— **School:** —————————

[1]	[2]	[3]	[4]	[5]	**TOTAL**

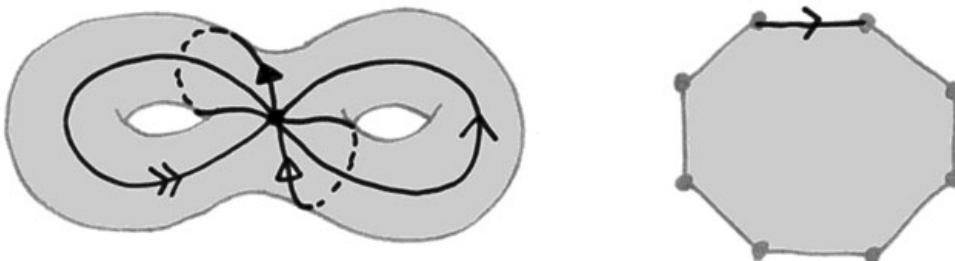You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.

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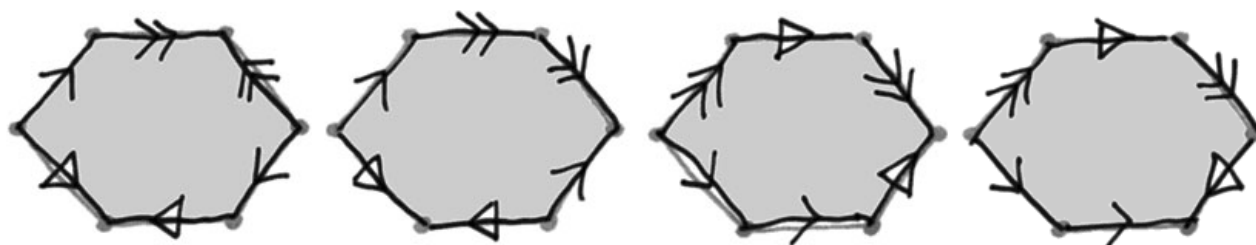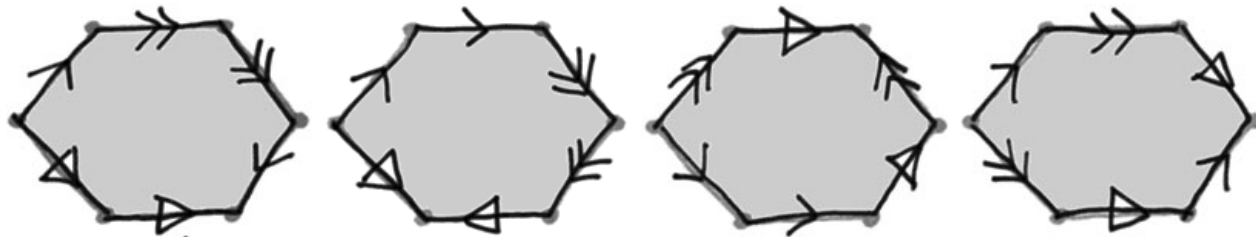

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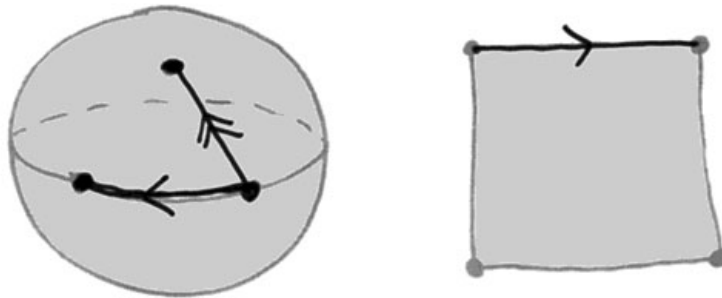
First Exam LL
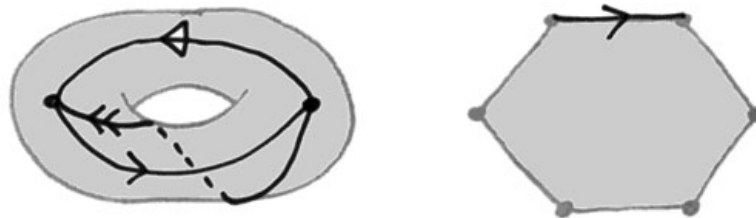
Surfaces and Knots, Dave Bayer, February 21, 2002

Name: —————————————————————— **School:** ——————————

[1]	[2]	[3]	[4]	[5]	**TOTAL**

You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.

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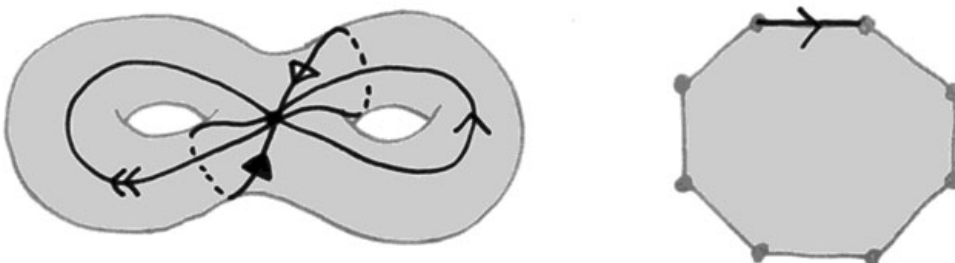**[2]** Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
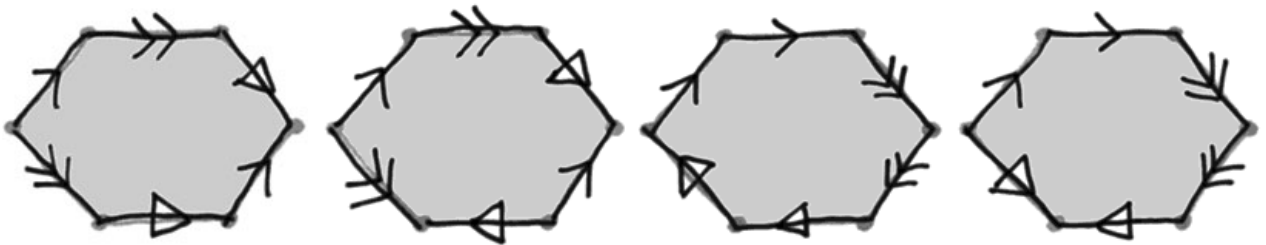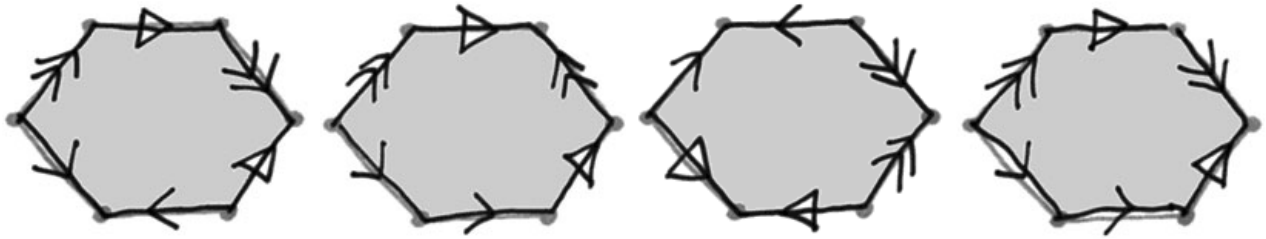

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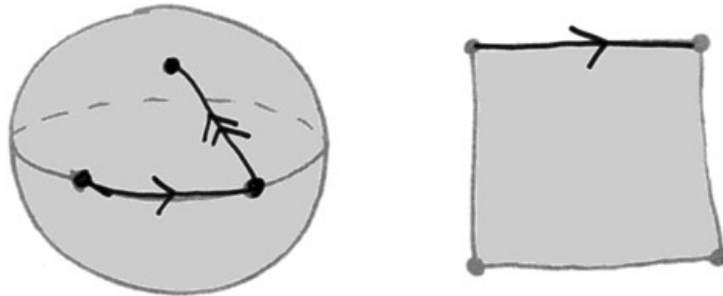
First Exam LM
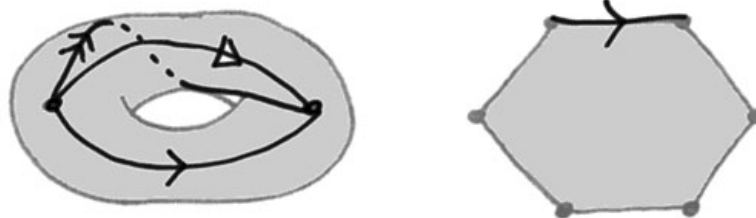
Surfaces and Knots, Dave Bayer, February 21, 2002

Name: ⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯ **School:** ⎯⎯⎯⎯⎯⎯⎯

[1]	**[2]**	**[3]**	**[4]**	**[5]**	**TOTAL**

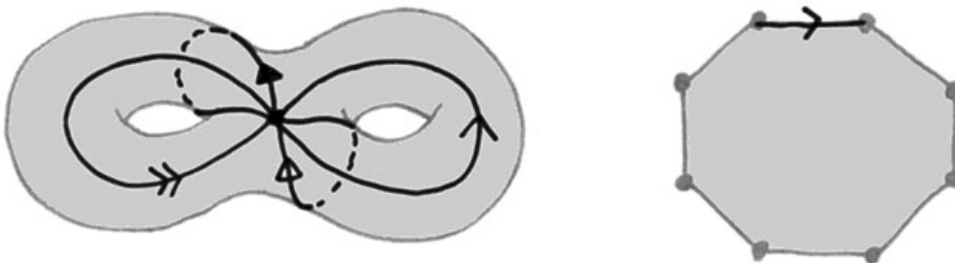You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.

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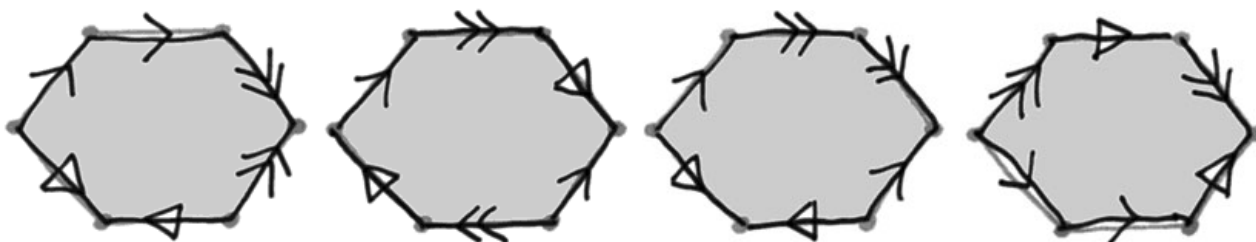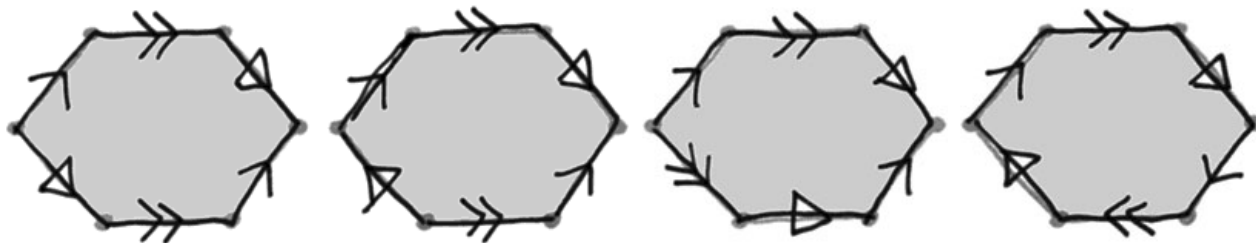

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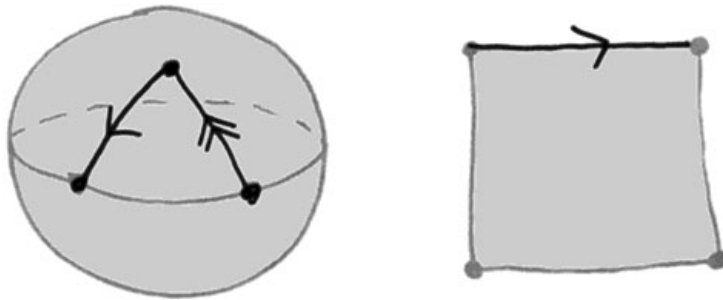
First Exam LN
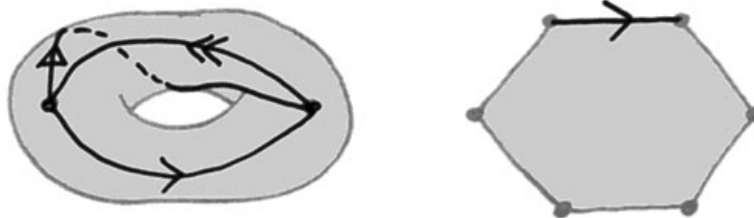
Surfaces and Knots, Dave Bayer, February 21, 2002

Name: ⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯ **School:** ⎯⎯⎯⎯⎯⎯⎯

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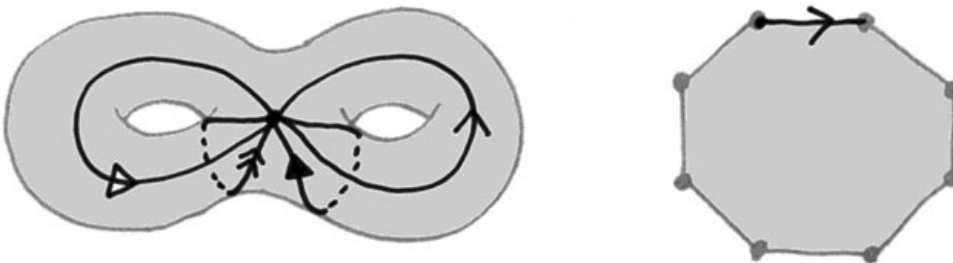

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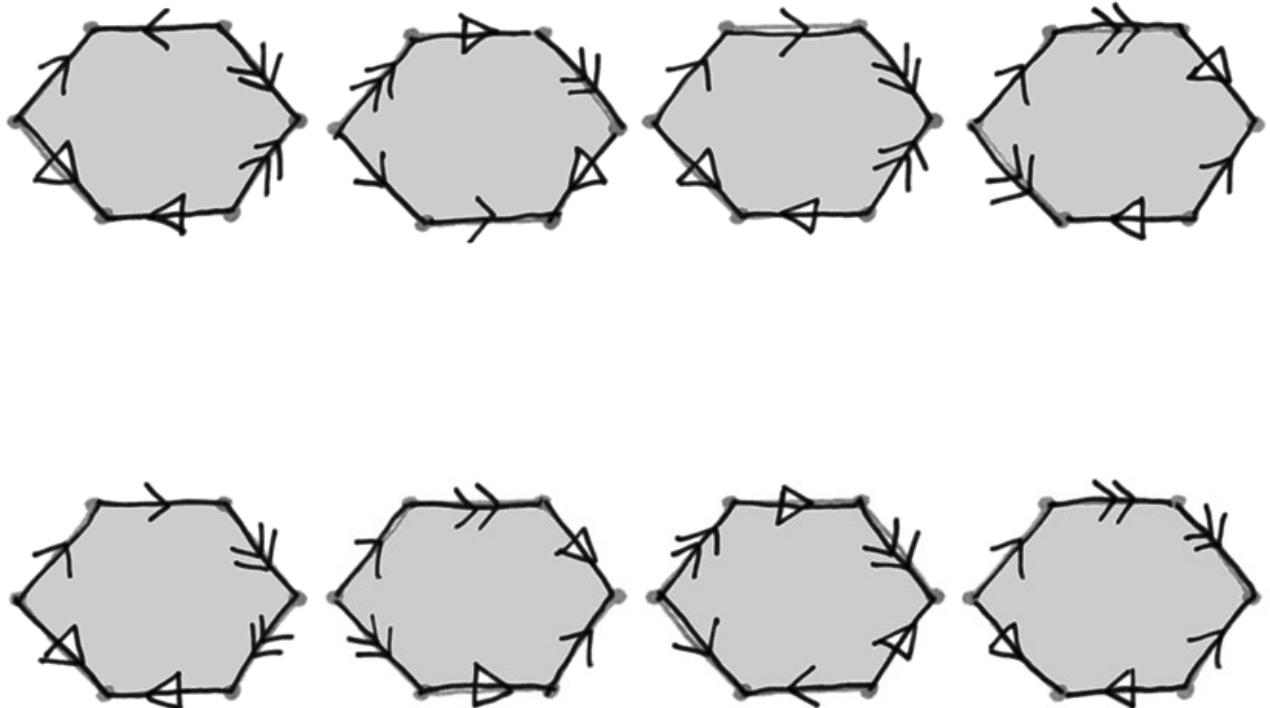
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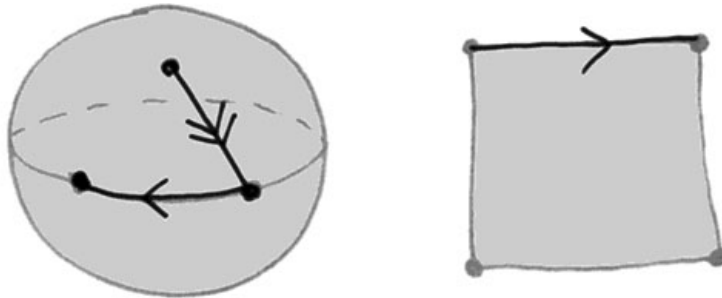
First Exam MA

Surfaces and Knots, Dave Bayer, February 21, 2002
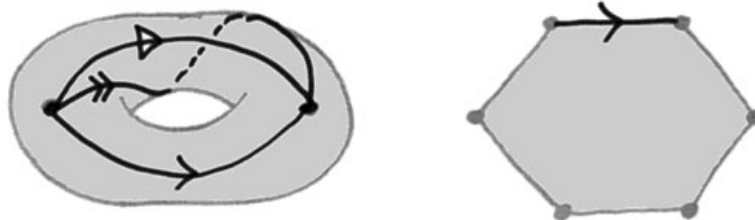
Name: _____   **School:** _____

[1]	[2]	[3]	[4]	[5]	TOTAL

You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.
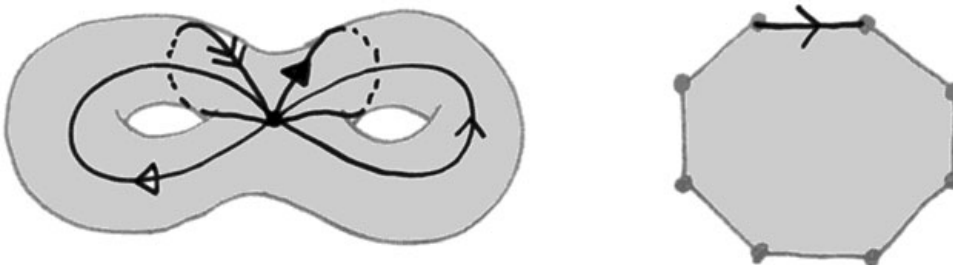
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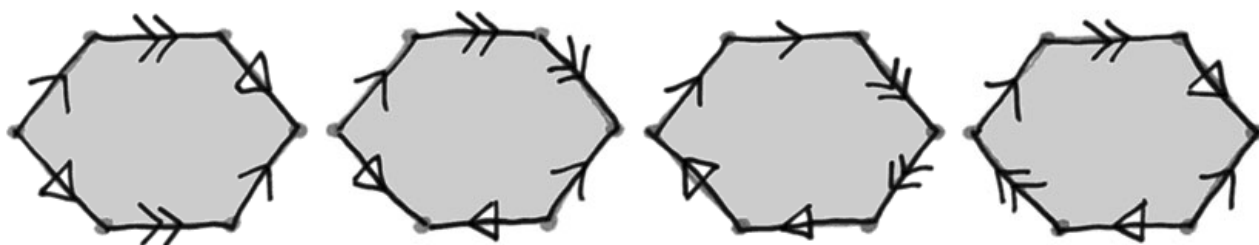
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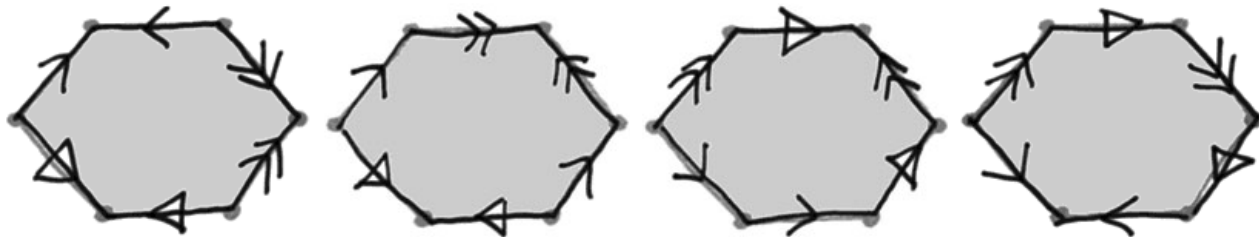
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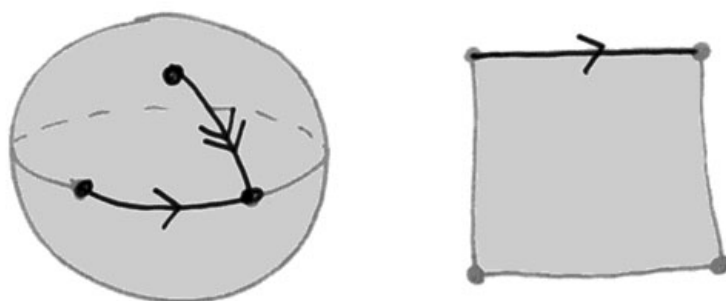
First Exam MB
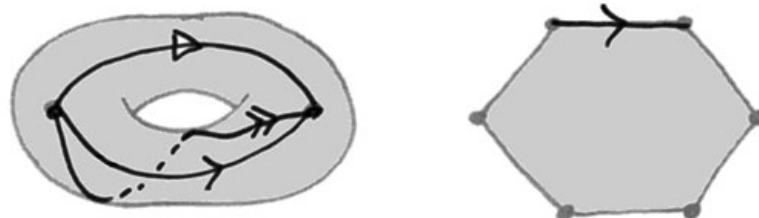
Surfaces and Knots, Dave Bayer, February 21, 2002

Name: ——————————————————— **School:** —————

[1]	[2]	[3]	[4]	[5]	**TOTAL**

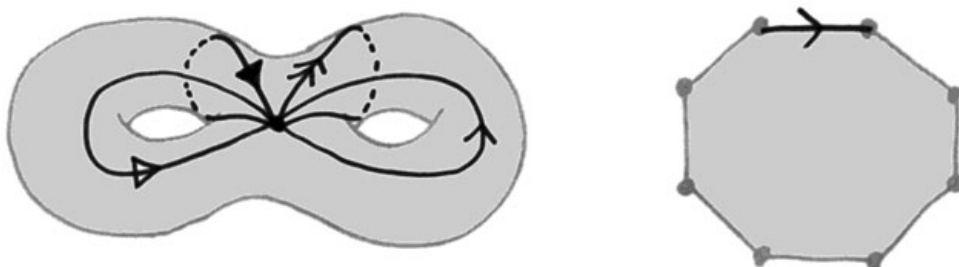You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.

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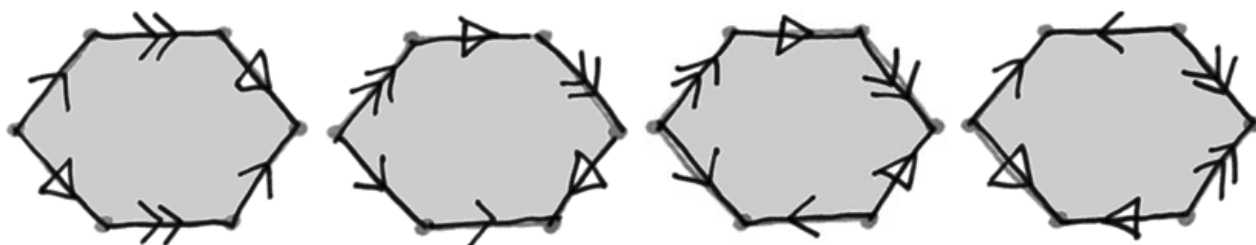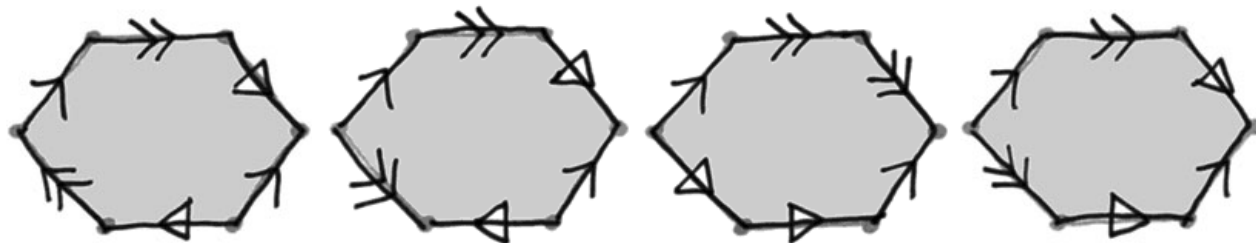

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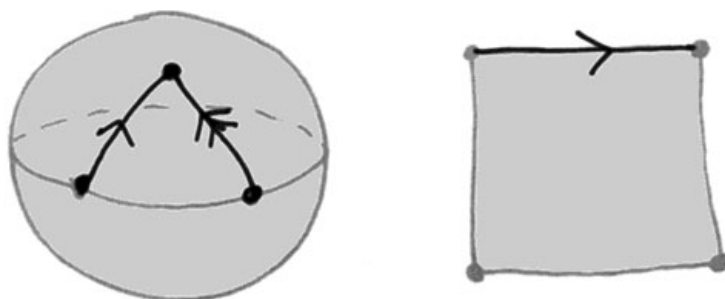
First Exam MC

Surfaces and Knots, Dave Bayer, February 21, 2002
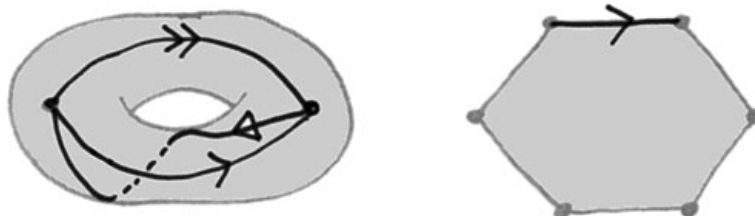
Name: _____ **School:** _____

[1]	**[2]**	**[3]**	**[4]**	**[5]**	**TOTAL**

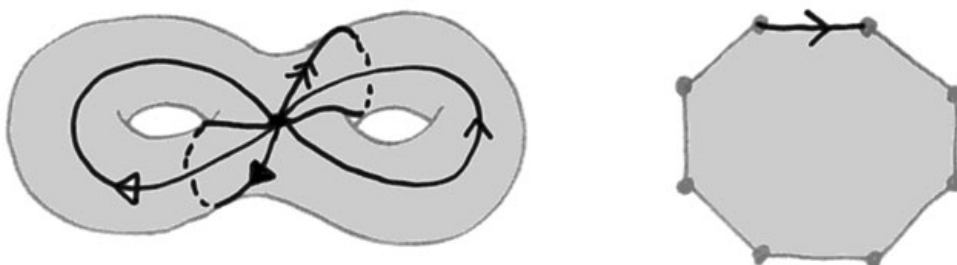You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.

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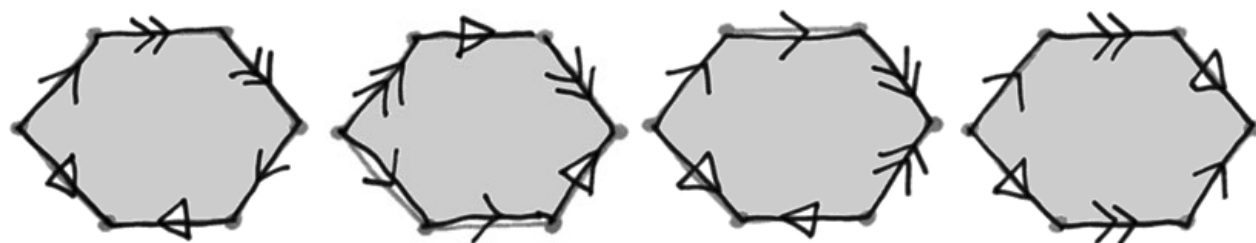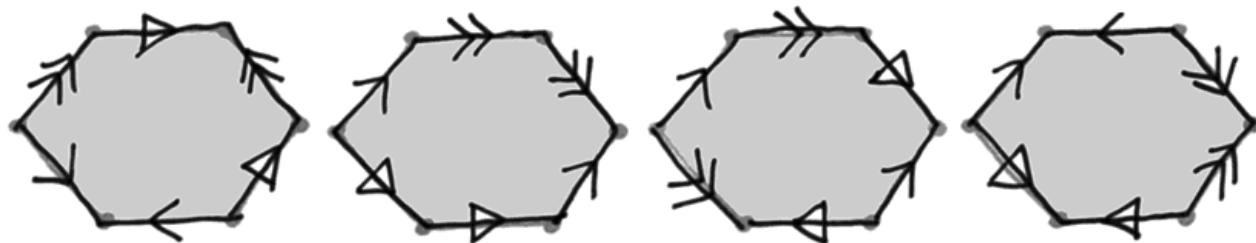
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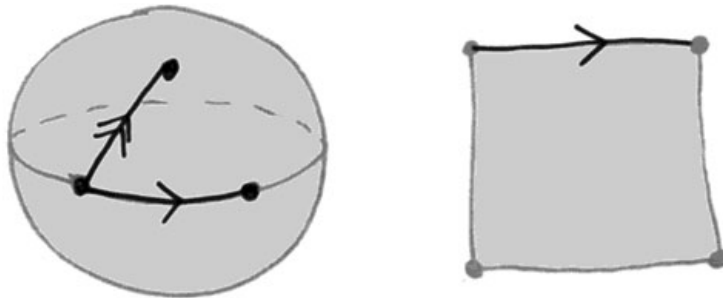
First Exam MD
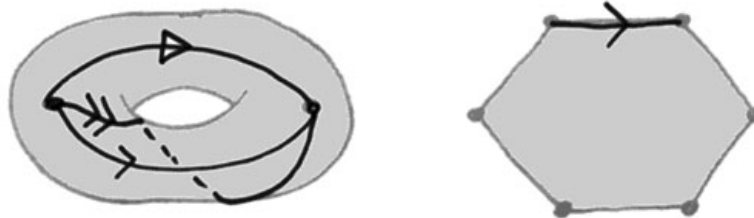
Surfaces and Knots, Dave Bayer, February 21, 2002

Name: ———————————————————— **School:** —————————

[1]	**[2]**	**[3]**	**[4]**	**[5]**	**TOTAL**

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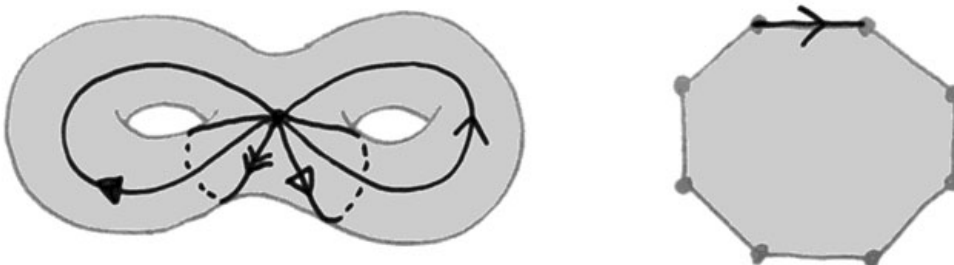
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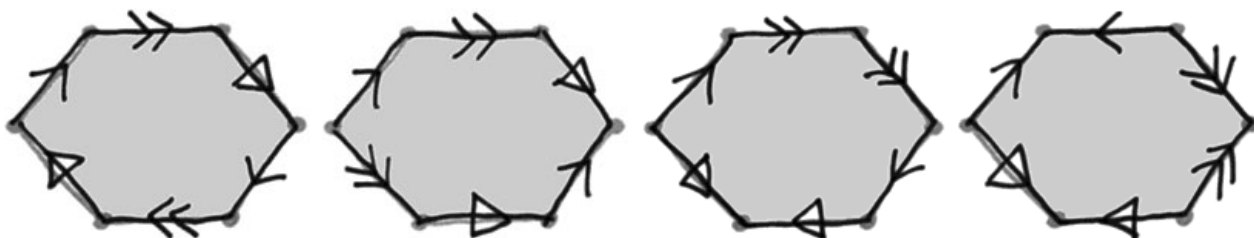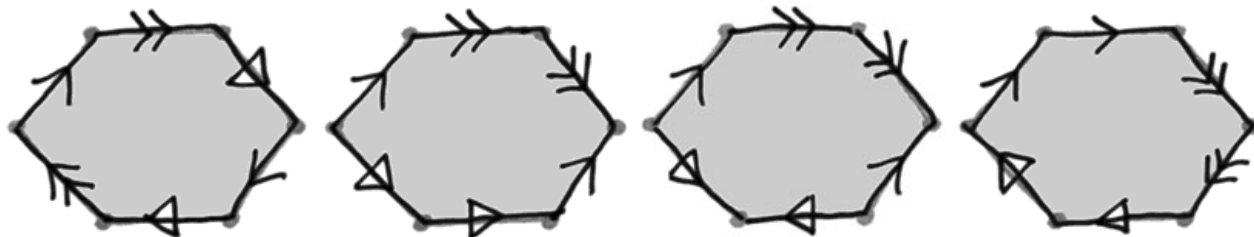
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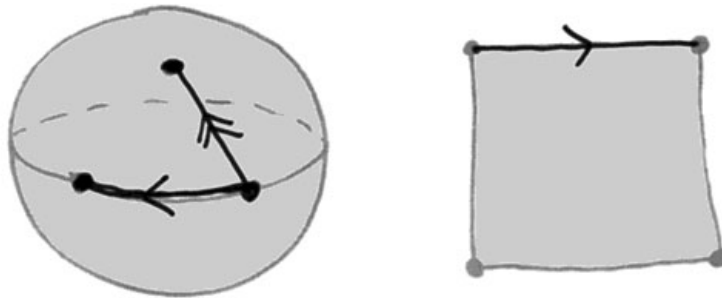
First Exam ME

Surfaces and Knots, Dave Bayer, February 21, 2002
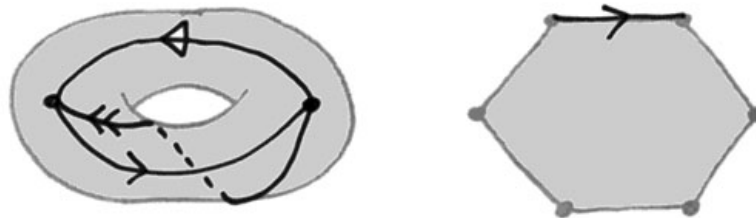
Name: _____ **School:** _____

[1]	[2]	[3]	[4]	[5]	**TOTAL**

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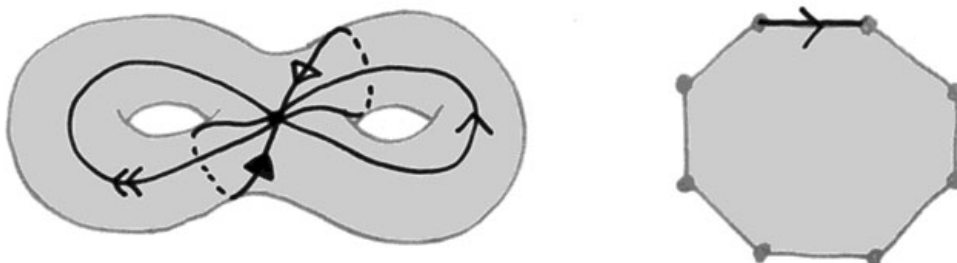
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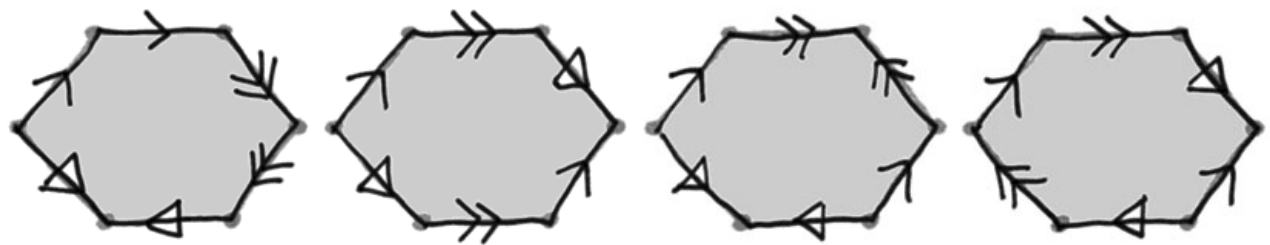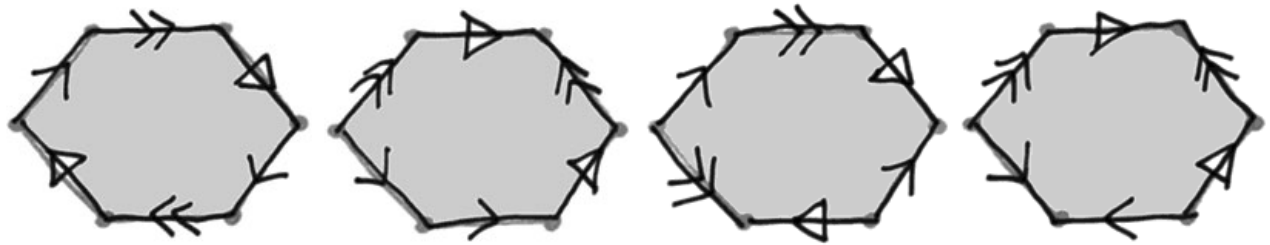

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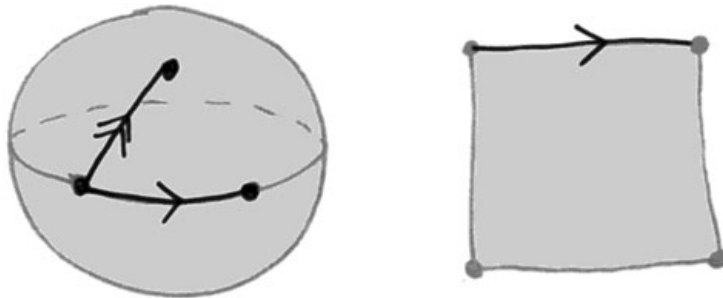
First Exam MF

Surfaces and Knots, Dave Bayer, February 21, 2002
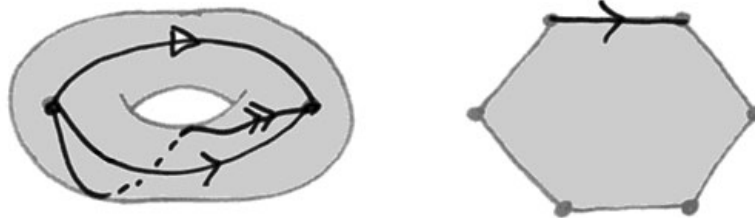
Name: _____ **School:** _____

[1]	[2]	[3]	[4]	[5]	TOTAL

You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.
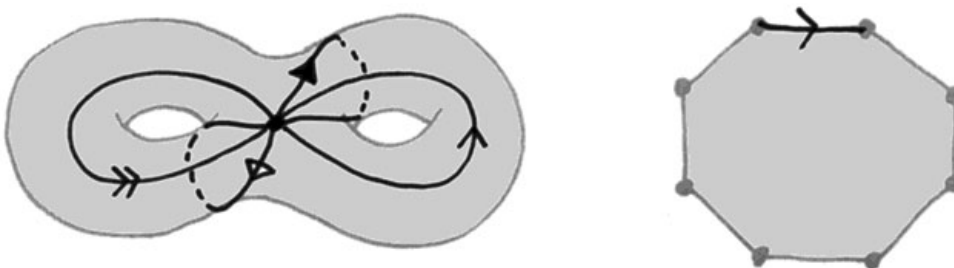
[1] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
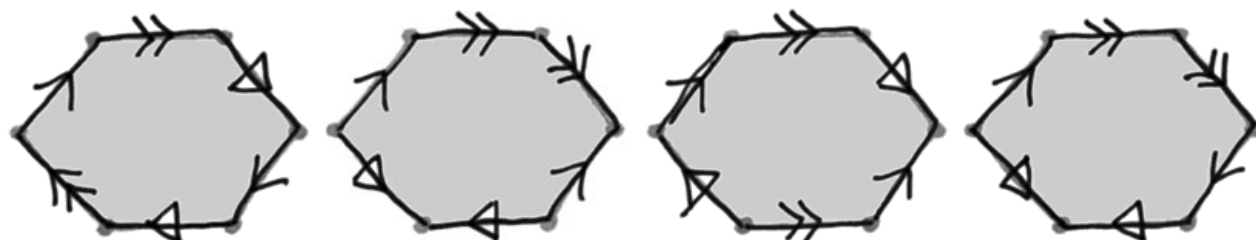

[2] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.

[3] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
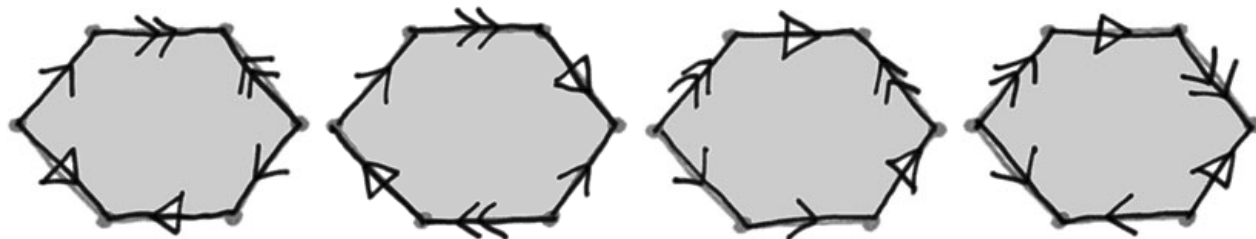
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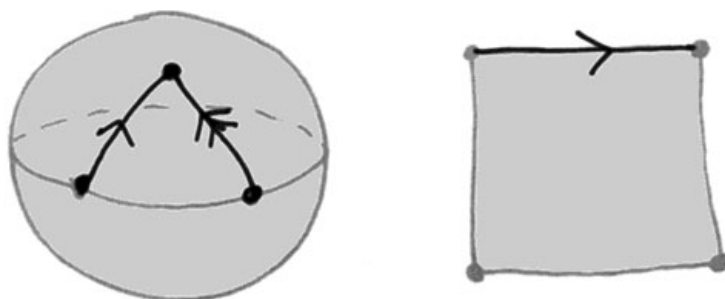
First Exam MG

Surfaces and Knots, Dave Bayer, February 21, 2002
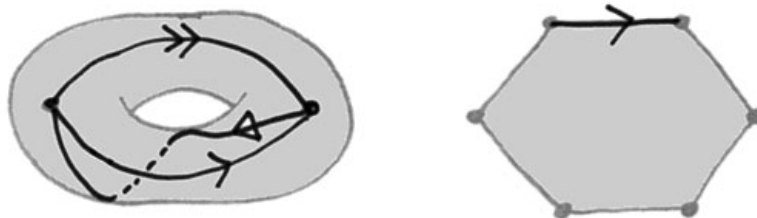
Name: _____   **School:** _____

[1]	**[2]**	**[3]**	**[4]**	**[5]**	**TOTAL**

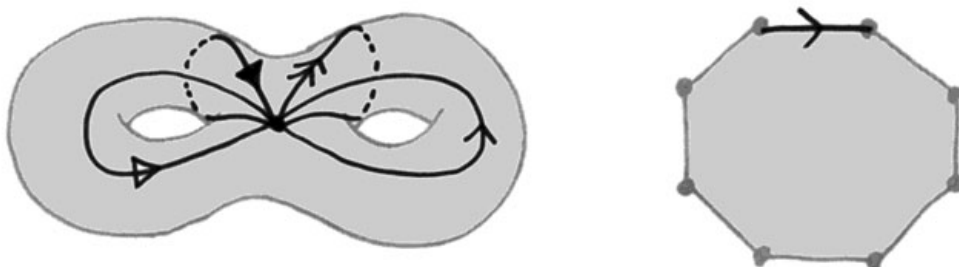You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.

[1] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.

[2] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.

[3] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
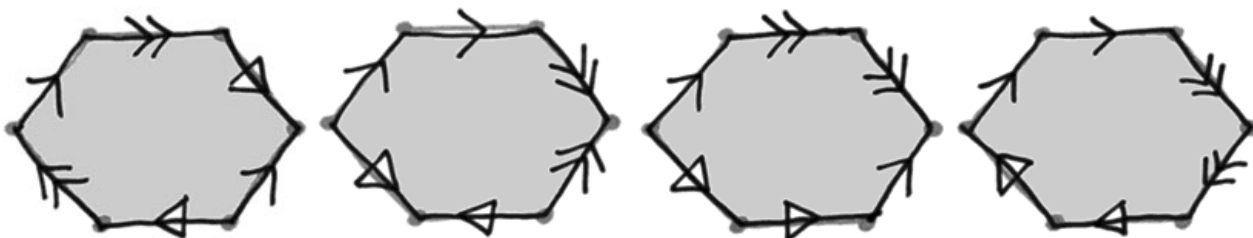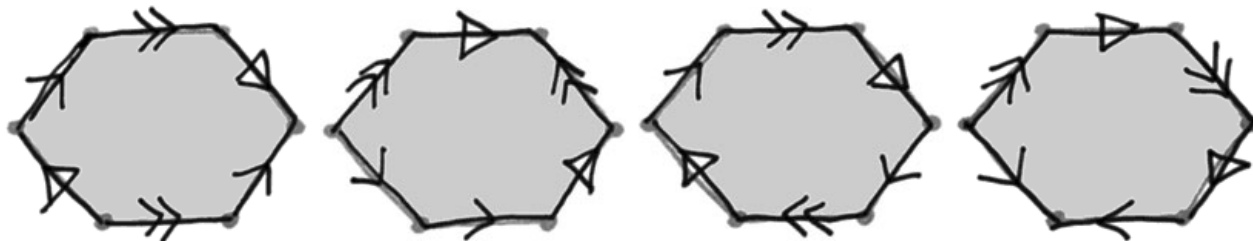
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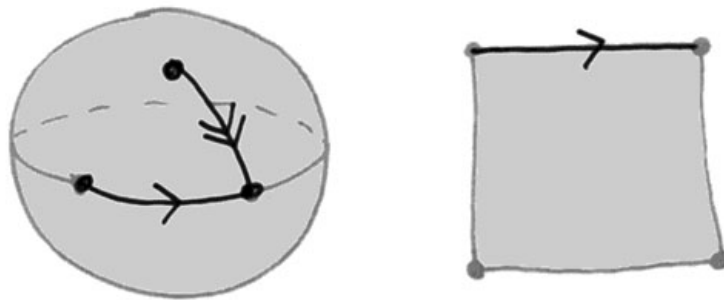
First Exam MH
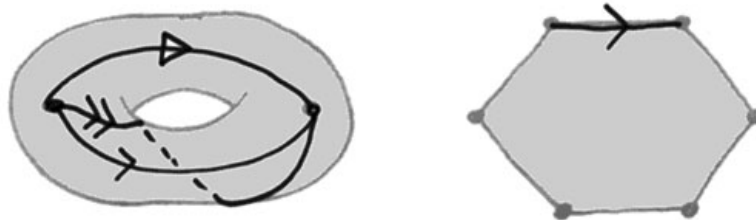
Surfaces and Knots, Dave Bayer, February 21, 2002

Name: ⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯ **School:** ⎯⎯⎯⎯⎯⎯⎯

[1]	**[2]**	**[3]**	**[4]**	**[5]**	**TOTAL**

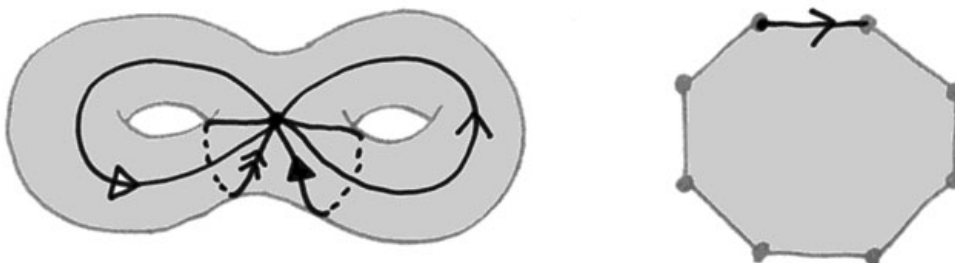You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.

[1] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.

[2] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.
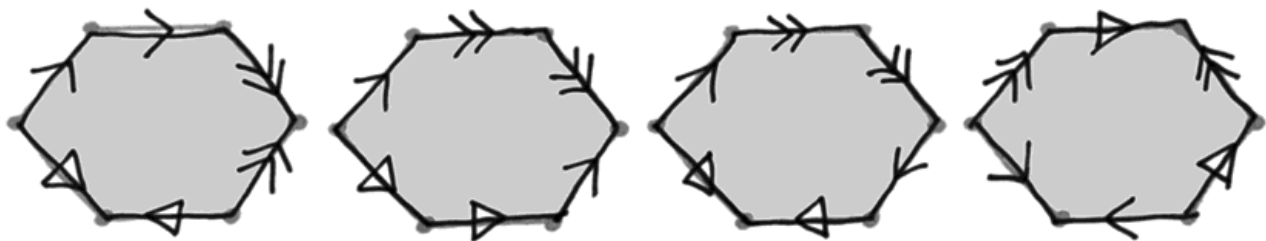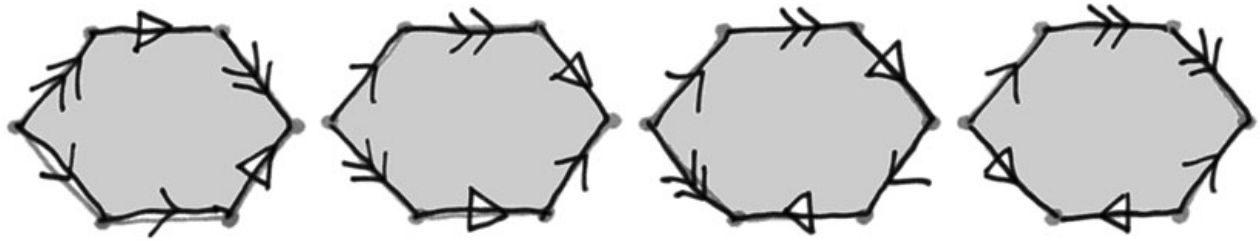

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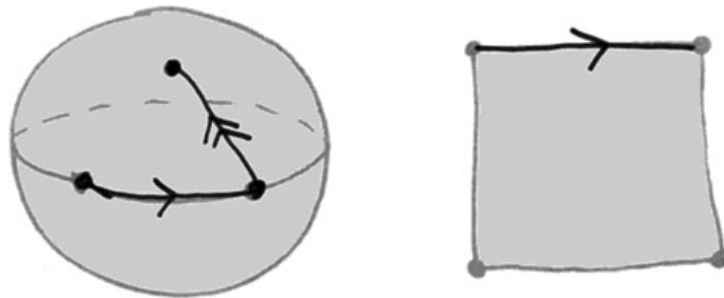
First Exam MI

Surfaces and Knots, Dave Bayer, February 21, 2002
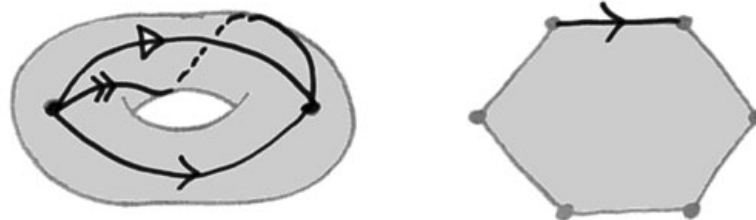
Name: _____ **School:** _____

[1]	[2]	[3]	[4]	[5]	TOTAL

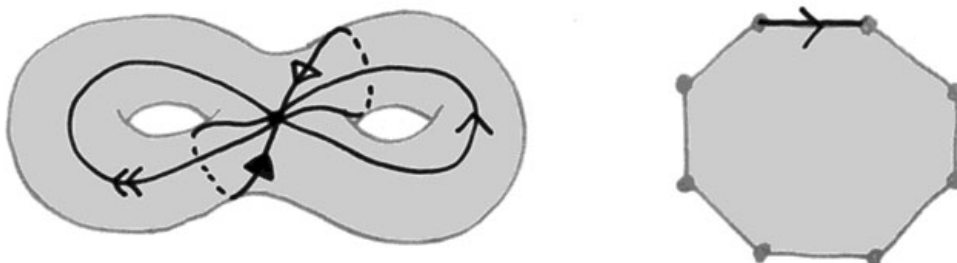You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.

[1] Finish labeling the gluing diagram on the right, so it glues together to form the surface on the left. Compute the Euler characteristic of this surface.

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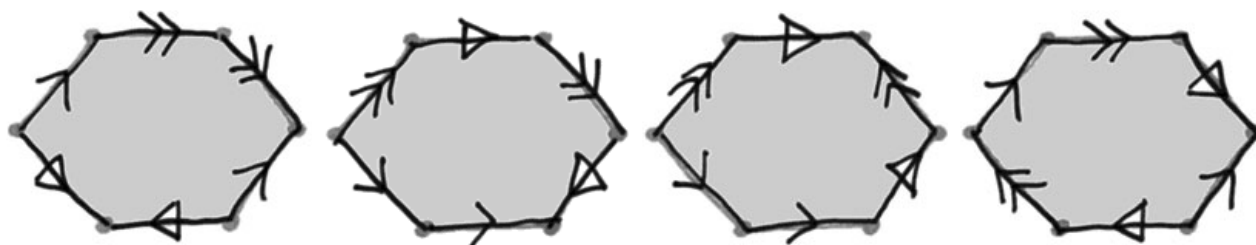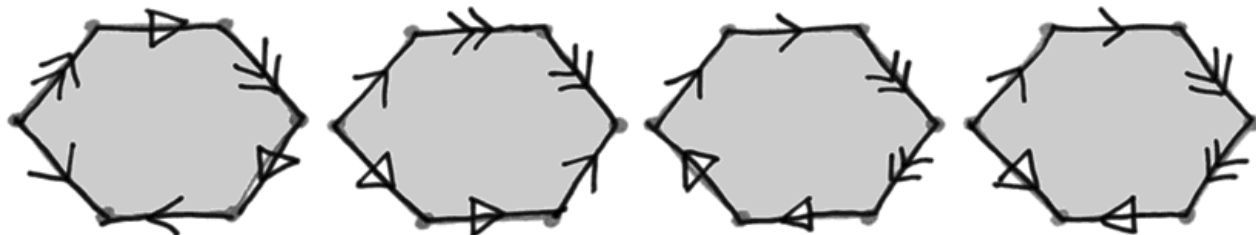
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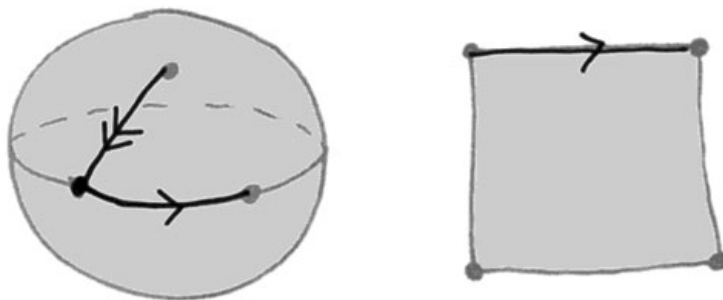
First Exam MJ

Surfaces and Knots, Dave Bayer, February 21, 2002
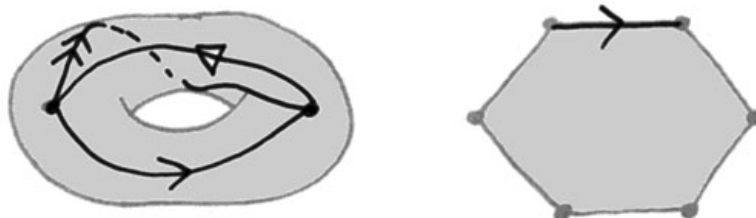
Name: _____ **School:** _____

[1]	[2]	[3]	[4]	[5]	**TOTAL**

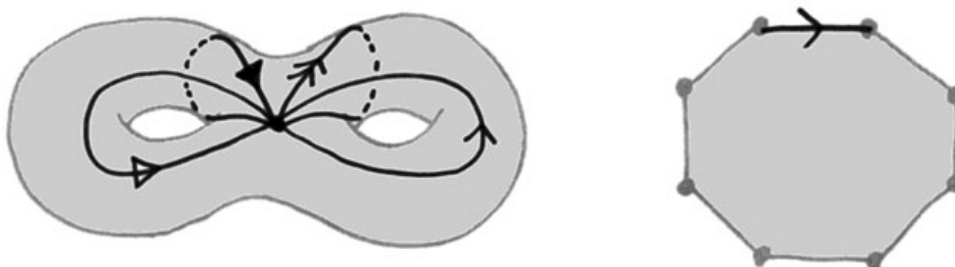You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.

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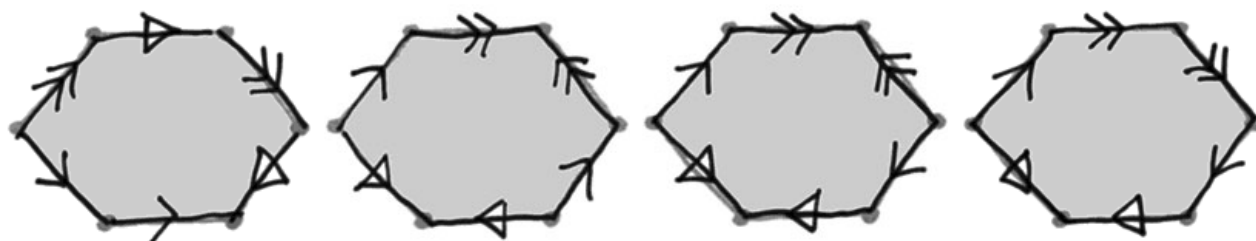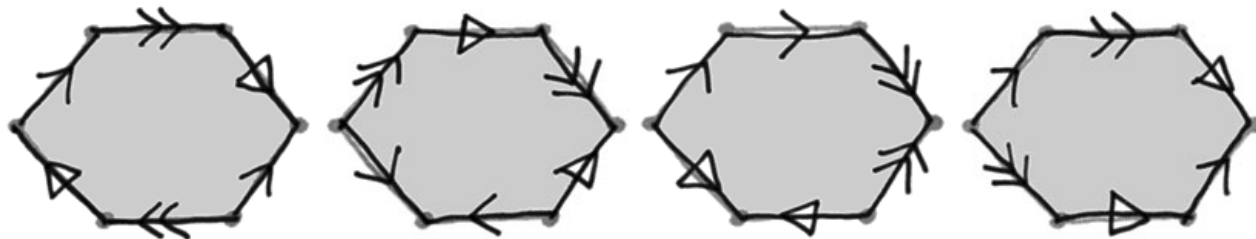
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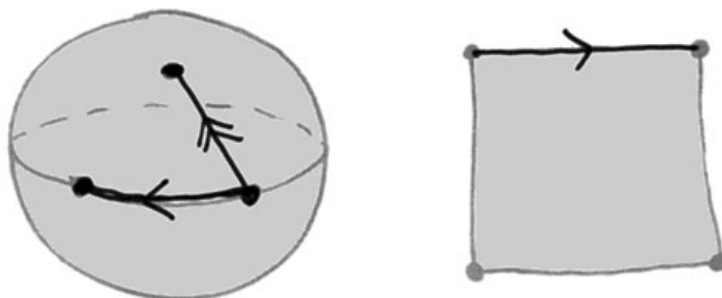
First Exam MK

Surfaces and Knots, Dave Bayer, February 21, 2002
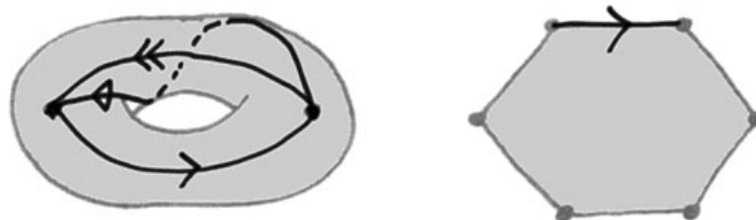
Name: _____ **School:** _____

[1]	[2]	[3]	[4]	[5]	TOTAL

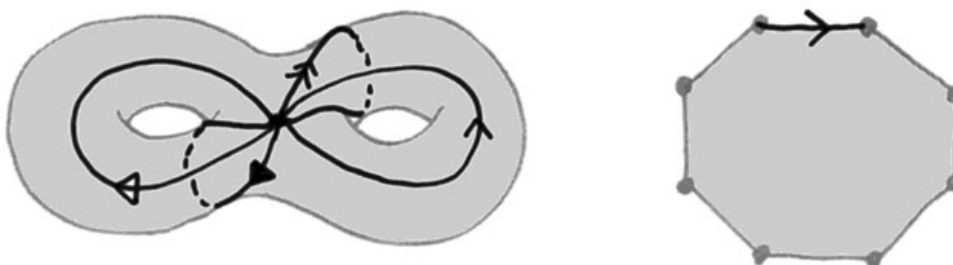You may use scratch paper, but only this sheet will be graded; please present all answers on this sheet.

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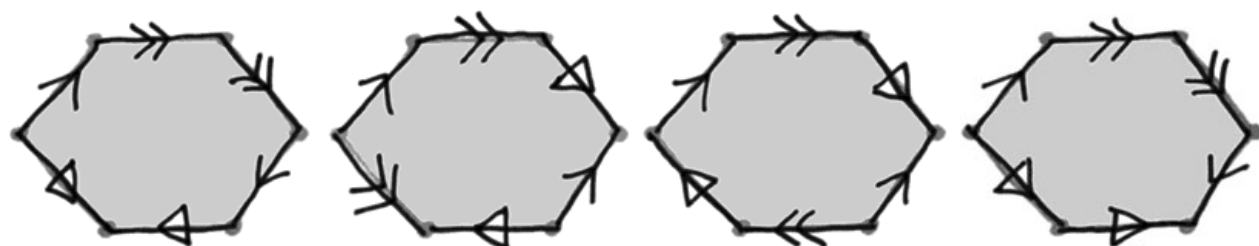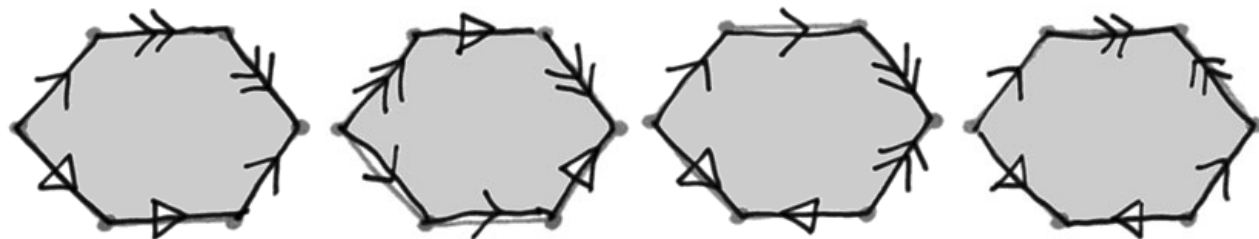

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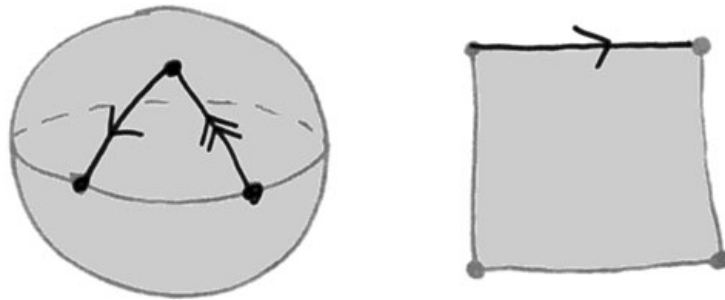
First Exam ML

Surfaces and Knots, Dave Bayer, February 21, 2002
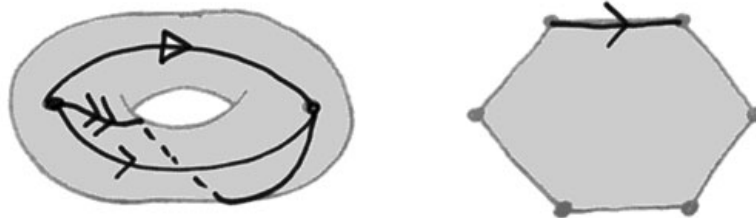
Name: _____ **School:** _____

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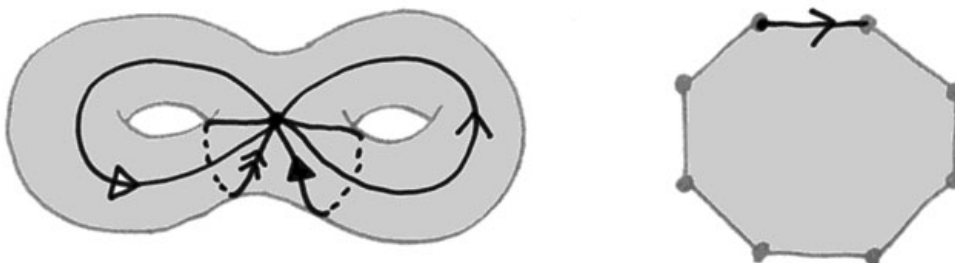
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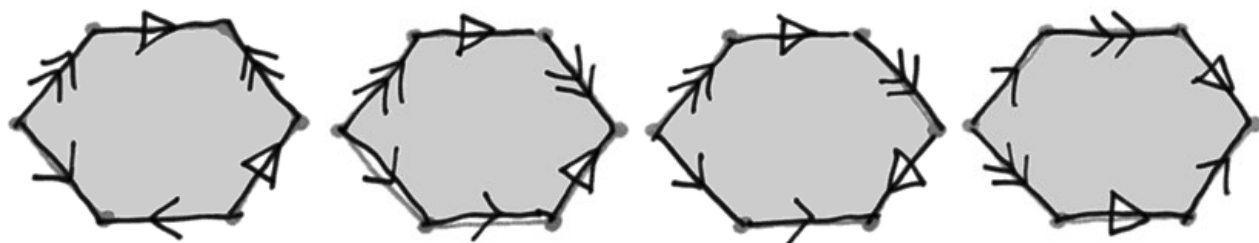
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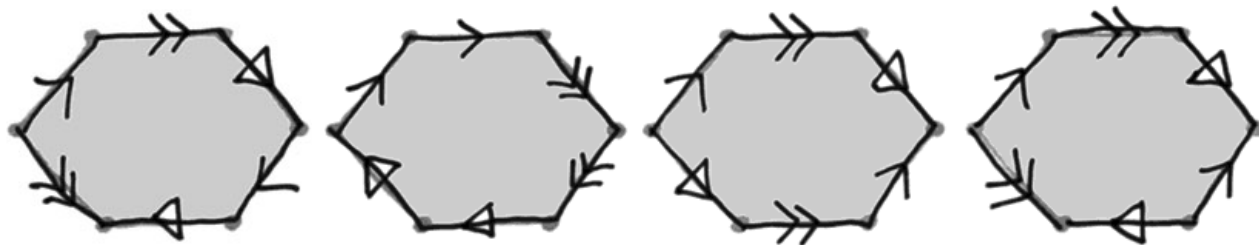
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