Exam 1
Combinatorics, Dave Bayer, February 11, 2014

Name: ___________________________                     Uni: ______________

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If you need more than one page for a problem, clearly indicate on each page where to look next for your work.

[1] How many dots?
[2] How many paths are there from the lower left corner to the upper right corner of this grid, moving only up or to the right?
[3] How many paths are there of length 8 from the leftmost vertex to the rightmost vertex? Ignore paths that visit a vertex twice.
[4] How many ways can one fill a tube of length 12, using sticks of length 2 and 3? Three of the possibilities are shown below:
[5] There are 21 ways to cut a hexagon into three pieces. How many ways are there to cut an octagon into three pieces?