

Problem Set #4

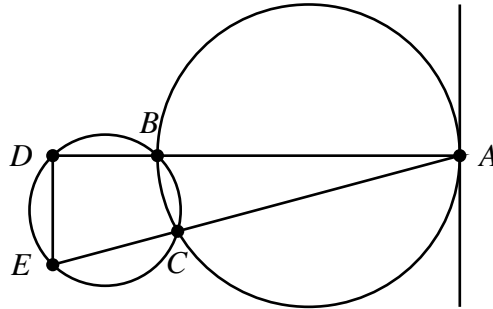
MATH 387 : 2015

Due: Thursday, 29 January 2015

- Using only a straightedge and compass (a.k.a. primitive tools), construct the following.
 - A square on a given side AB .
 - A regular hexagon on a given side AB .

Remark. Part (b) is [Level 22](#) in *Euclid: The Game*.

- Consider two circles which intersect at the points B and C . From a point A on one circle, the rays from A through the points B and C intersect the second circle in the points D and E respectively. Prove that the tangent at A is parallel to the line segment DE .



- Given two lines and point not on either line, construct a circle passing through the point and tangent to both lines.

Hint. Use Eucl.III.36.