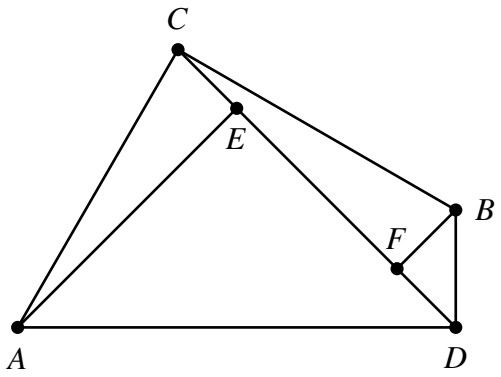
Problems #3

MATH 387 : 2015

Due: Thursday, 22 January 2015

1. Complete Level 18 in *Euclid: The Game* and provide a proof (in the style of Euclid) that your solution is correct.

2. Given an angle with vertex A and a point B inside the angle. Construct perpendiculars BC and BD to the two sides of the angle. Draw the line segment CD and drop perpendiculars AE and BF to the line CD. Prove that $CE = DF$.



3. Given a rectangle, construct a square with the same content.

   Hint. Read Proposition II.14 in Euclid's *Elements*.