**Worksheet: Squares, Parallelograms and Area**
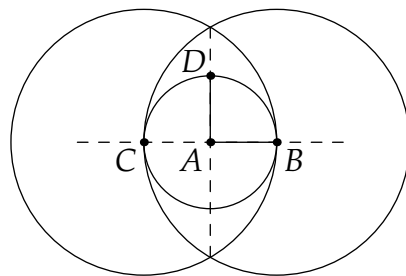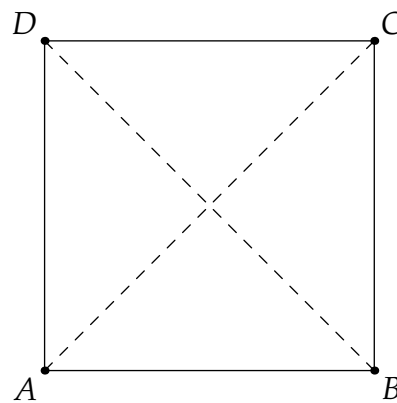
To prove Pythagoras' Theorem, Euclid needs to compare areas of triangles and parallelograms, and to construct squares. Prove the following as best as you can: the pictures will help!
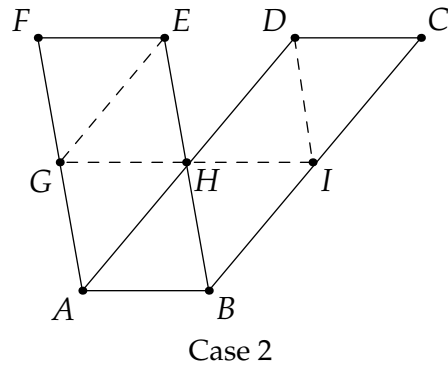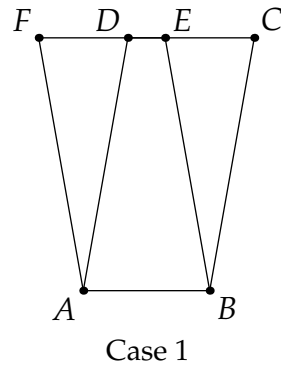
1. (Thm I. 11) At a given point $A$ on a line $\overline{AB}$, to construct a perpendicular.

2. (Thm I. 46) To construct a square on a given segment.

3. (Thm I. 35) Parallelograms $\square ABCD$ and $\square ABEF$ on the same base and with the same height have equal area.



Case 1                    Case 2

4. (Thm I. 41) A parallelogram has twice the area of a triangle on the same base and with the same height.