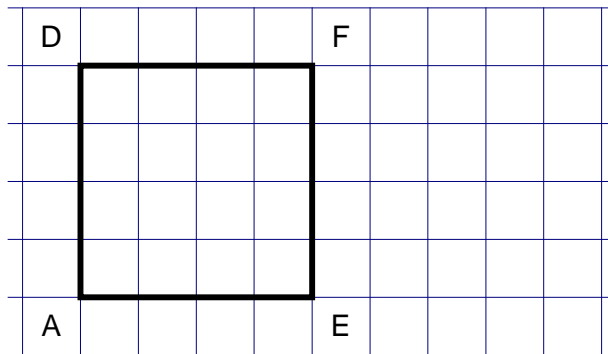


Worksheet 6.1: Similarity II

Purpose: To use graph paper and a compass and straightedge to construct a Golden Rectangle

Using the graph paper provided, follow the steps below.

■ On the graph paper draw a square AEFD with an even number of units on each side as in the diagram below.



- Find the midpoint M of \overline{AE} .
- With radius MF draw an arc that intersects \overrightarrow{AE} at point B.
- Construct the perpendicular to \overleftrightarrow{AB} at point B.
- Let point C be the intersection of this perpendicular and \overrightarrow{DF} .
- Draw rectangle ABCD.

Questions:

1. Use ME, EF, and the Pythagorean Theorem to find MF.
2. Use MF to find EB.
3. What are the dimensions of rectangle ABCD?
4. **Verify** that ABCD is a Golden Rectangle.