

### Problem-Based Task: Stained Glass Pattern, Part I

Mary creates stained glass art. She is in the planning stages of creating a new piece and has found a pattern she really likes. Mary studies the pattern to determine which triangles in the pattern are congruent, so that she can cut the correct size pieces of glass. Pictured below is a portion of the pattern. Use the pattern and the information that follows to determine which triangles are congruent. How could Mary use this information to help plan her project?

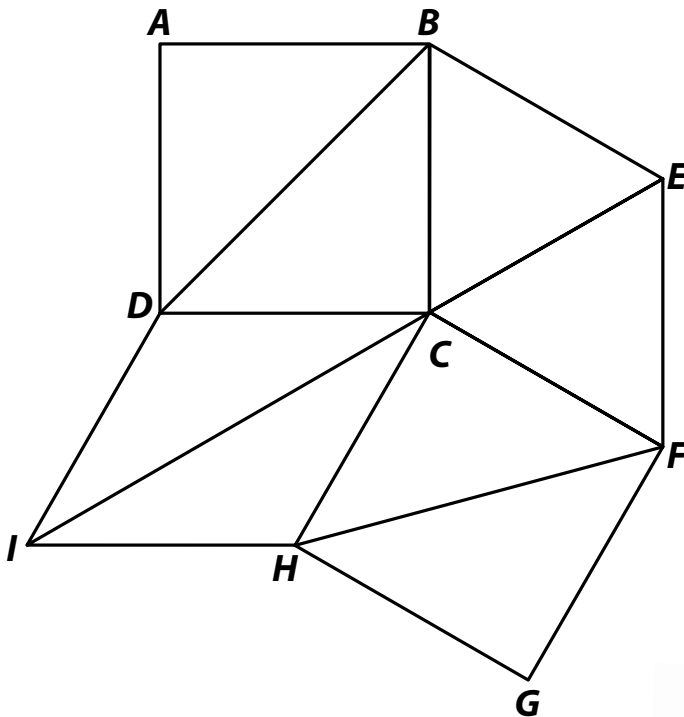
SMP

1 ✓ 2

3 ✓ 4

5 6

7 ✓ 8



- Quadrilaterals  $ABCD$  and  $CFGH$  are squares. Each diagonal of a square bisects an opposite pair of angles.
- Quadrilaterals  $BEFC$  and  $DCHI$  are rhombuses. The diagonals of a rhombus bisect the opposite pairs of angles. Remember that opposite pairs of angles are congruent.
- $\overline{EC} \cong \overline{BC}$

