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## Assessment

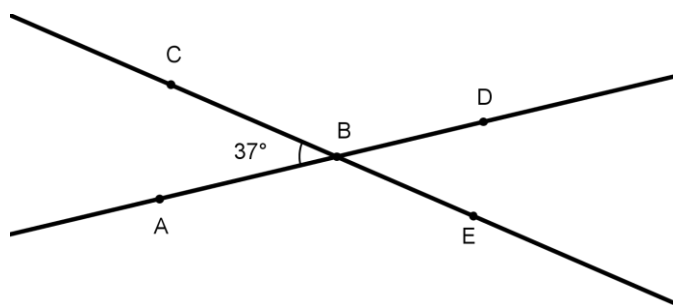
### Rigid Transformations and Congruence: End-of-Unit Assessment

A straight edge and tracing paper are required for this assessment.

1. Select **all** the true statements.

- A. Two squares with the same side lengths are always congruent.
- B. Two rectangles with the same side lengths are always congruent.
- C. Two rhombuses with the same side lengths are always congruent.
- D. Two parallelograms with the same side lengths are always congruent.
- E. Two quadrilaterals with the same side lengths are always congruent.

2. Lines  $CE$  and  $AD$  intersect at  $B$ .



Select **all** the true statements.

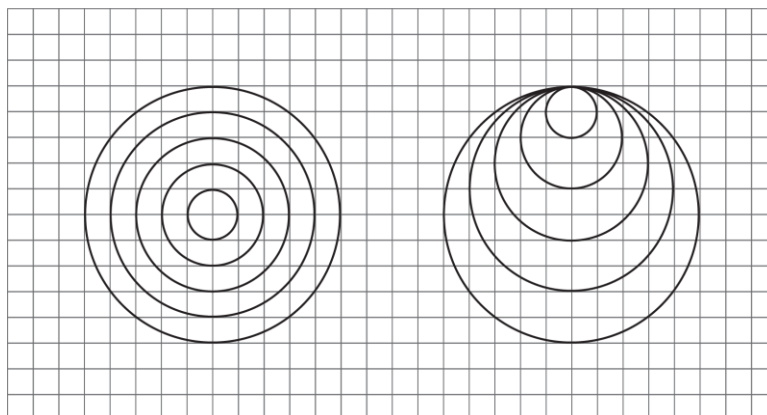
- A. The measure of angle  $CBA$  is equal to the measure of angle  $DBE$ .
- B. The sum of the measures of angles  $CBA$  and  $DBE$  is 180 degrees.
- C. The measure of angle  $CBD$  is equal to the measure of angle  $ABE$ .
- D. The sum of the measures of angles  $CBD$  and  $CBA$  is 180 degrees.
- E. The sum of the measures of angles  $CBA$  and  $DBE$  is 90 degrees.

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3. Diego made the shape on the left, and Elena made the shape on the right. Each shape uses 5 circles.



Select **all** the true statements.

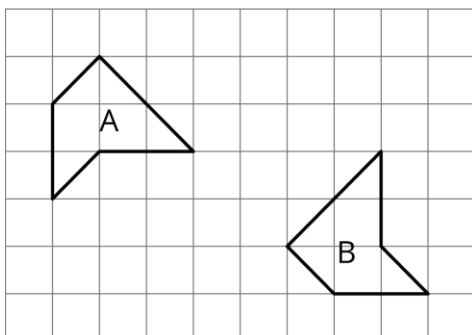
- A. The smallest circle in Diego's design is congruent to the smallest circle in Elena's design.
- B. Diego's design is congruent to Elena's design.
- C. Elena's design is a translation of Diego's design.
- D. The largest circle in Elena's design is congruent to the largest circle in Diego's design.
- E. Each circle in the Elena's design has a congruent circle within Diego's design.

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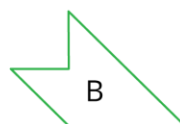
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4. Describe a sequence of transformations that shows that Polygon A is congruent to Polygon B.

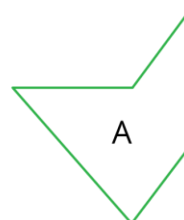
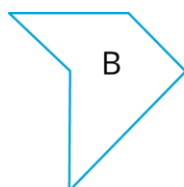


5. For each pair of shapes, decide whether or not Shape A is congruent to Shape B. Explain your reasoning.

a. First pair:



b. Second pair:



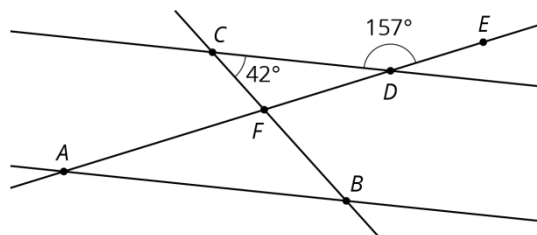
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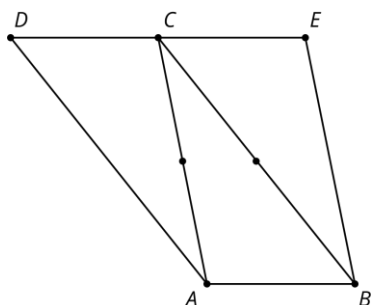
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6. Lines  $AB$  and  $CD$  are parallel. Find the measures of the three angles in triangle  $ABF$ .



7. Triangle  $CDA$  is the image of triangle  $ABC$  after a  $180^\circ$  rotation around the midpoint of segment  $AC$ . Triangle  $ECB$  is the image of triangle  $ABC$  after a  $180^\circ$  rotation around the midpoint of segment  $BC$ .



- a. Explain why  $ABCD$  and  $ABEC$  are parallelograms.

- b. Identify at least two pairs of congruent angles in the figure and explain how you know they are congruent.

- c. Explain how to use what you know about the sum of the angles in a triangle to figure out the sum of the angles of quadrilateral  $ABED$ .

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