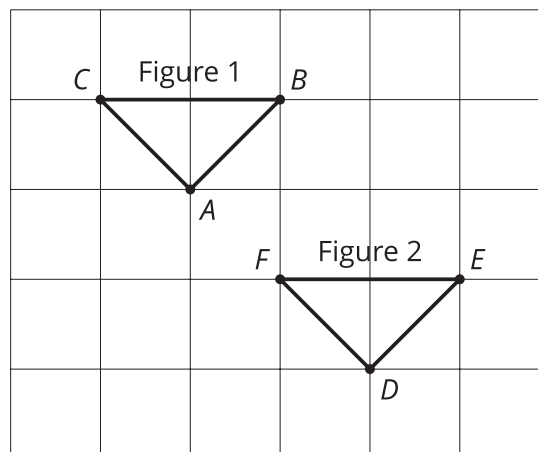
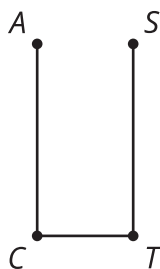


Lesson 18 Practice Problems

1. The figures are congruent. Select all the sequences of transformations that would take Figure 1 to Figure 2.

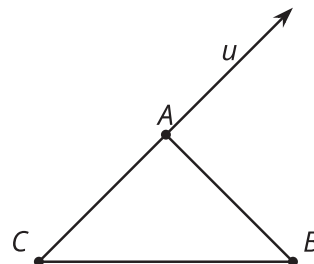


- A. Translate by directed line segment AD .
- B. Rotate 180 degrees around point E .
- C. Translate by directed line segment AE and reflect across AC .
- D. Translate by directed line segment CE and rotate 90 degrees counterclockwise around point E .
- E. Rotate 180 degrees around point C , translate by directed line segment CE , and reflect across segment EF .
- F. Reflect across segment AB , rotate clockwise by angle BFE using center F , then reflect across segment EF .
2. a. Draw the image of figure $ACTS$ after a clockwise rotation around point T using angle CTS and then a translation by directed line segment CT .
- b. Describe another sequence of transformations that will result in the same image.



3. Draw the image of triangle ABC after this sequence of rigid transformations.

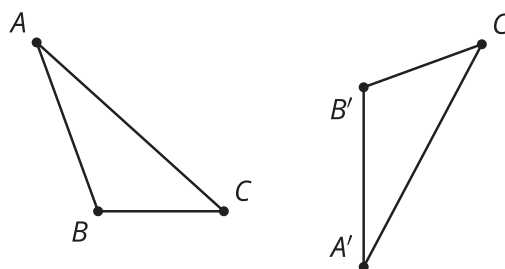
- a. Reflect across line segment AB .
- b. Translate by directed line segment u .



4. Describe a transformation that takes any point A to any point B .

(From Unit 1, Lesson 17.)

5. Triangle ABC is congruent to triangle $A'B'C'$. Describe a sequence of rigid motions that takes A to A' , B to B' , and C to C' .



(From Unit 1, Lesson 17.)

6. A quadrilateral has rotation symmetry that can take any of its vertices to any of its other vertices. Select **all** conclusions that we can reach from this.

- A. All sides of the quadrilateral have the same length.
- B. All angles of the quadrilateral have the same measure.
- C. All rotations take one half of the quadrilateral to the other half of the quadrilateral.

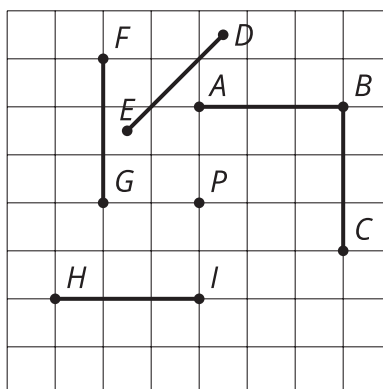
(From Unit 1, Lesson 16.)

7. A quadrilateral has a line of symmetry. Select **all** conclusions that *must* be true.

- A. All sides of the quadrilateral have the same length.
- B. All angles of the quadrilateral have the same measure.
- C. Two sides of the quadrilateral have the same length.
- D. Two angles of the quadrilateral have the same measure.
- E. No sides of the quadrilateral have the same length.
- F. No angles of the quadrilateral have the same measure.

(From Unit 1, Lesson 15.)

8. Which segment is the image of FG when rotated 90° clockwise around point P ?



(From Unit 1, Lesson 14.)

9. Which statement is true about a translation?

- A. A translation rotates a line.
- B. A translation takes a line to a parallel line or itself.
- C. A translation takes a line to a perpendicular line.
- D. A translation dilates a line.

(From Unit 1, Lesson 12.)