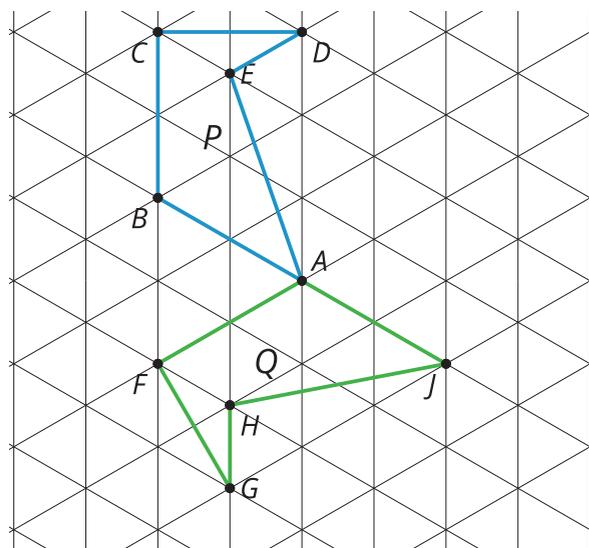


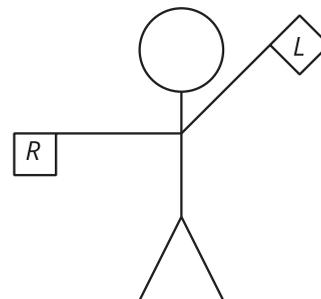
Lesson 13 Practice Problems

1. Here are 2 polygons:

Select **all** sequences of translations, rotations, and reflections below that would take polygon P to polygon Q .

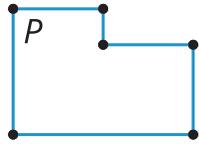


- A. Rotate 180° around point A .
 - B. Rotate 60° counterclockwise around point A and then reflect over the line FA .
 - C. Translate so that A is taken to J . Then reflect over line BA .
 - D. Reflect over line BA and then translate by directed line segment BA .
 - E. Reflect over the line BA and then rotate 60° counterclockwise around point A .
2. The semaphore alphabet is a way to use flags to signal messages. Here's how to signal the letter Q. Describe a transformation that would take the left hand flag to the right hand flag.

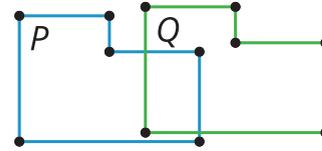
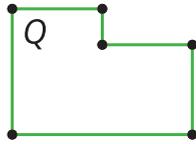


3. Match the directed line segment with the image of Polygon P being transformed to Polygon Q by translation by that directed line segment.

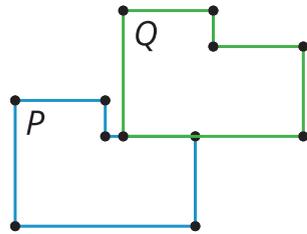
Translation 1



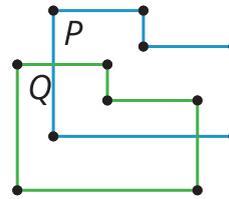
Translation 2



Translation 3



Translation 4

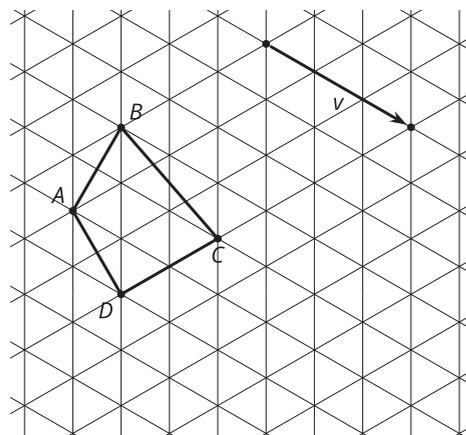


- A.
- B.
- C.
- D.

- 1. Translation 1
- 2. Translation 2
- 3. Translation 3
- 4. Translation 4

(From Unit 1, Lesson 12.)

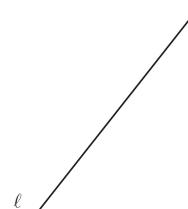
4. Draw the image of quadrilateral $ABCD$ when translated by the directed line segment v . Label the image of A as A' , the image of B as B' , the image of C as C' , and the image of D as D' .



(From Unit 1, Lesson 12.)

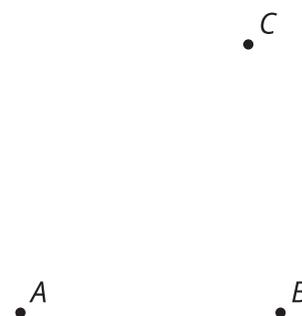
5. Here is a line ℓ .

Plot 2 points, A and B , which stay in the same place when they are reflected over ℓ . Plot 2 other points, C and D , which move when they are reflected over ℓ .



(From Unit 1, Lesson 11.)

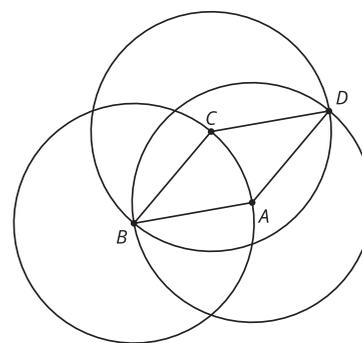
6. Here are 3 points in the plane. Select **all** the straightedge and compass constructions needed to locate the point that is the same distance from all 3 points.



- Construct the bisector of angle CAB .
- Construct the bisector of angle CBA .
- Construct the perpendicular bisector of BC .
- Construct the perpendicular bisector of AB .
- Construct a line perpendicular to AB through point C .
- Construct a line perpendicular to BC through point A .

(From Unit 1, Lesson 9.)

7. This straightedge and compass construction shows quadrilateral $ABCD$. Is $ABCD$ a rhombus? Explain how you know.



(From Unit 1, Lesson 7.)