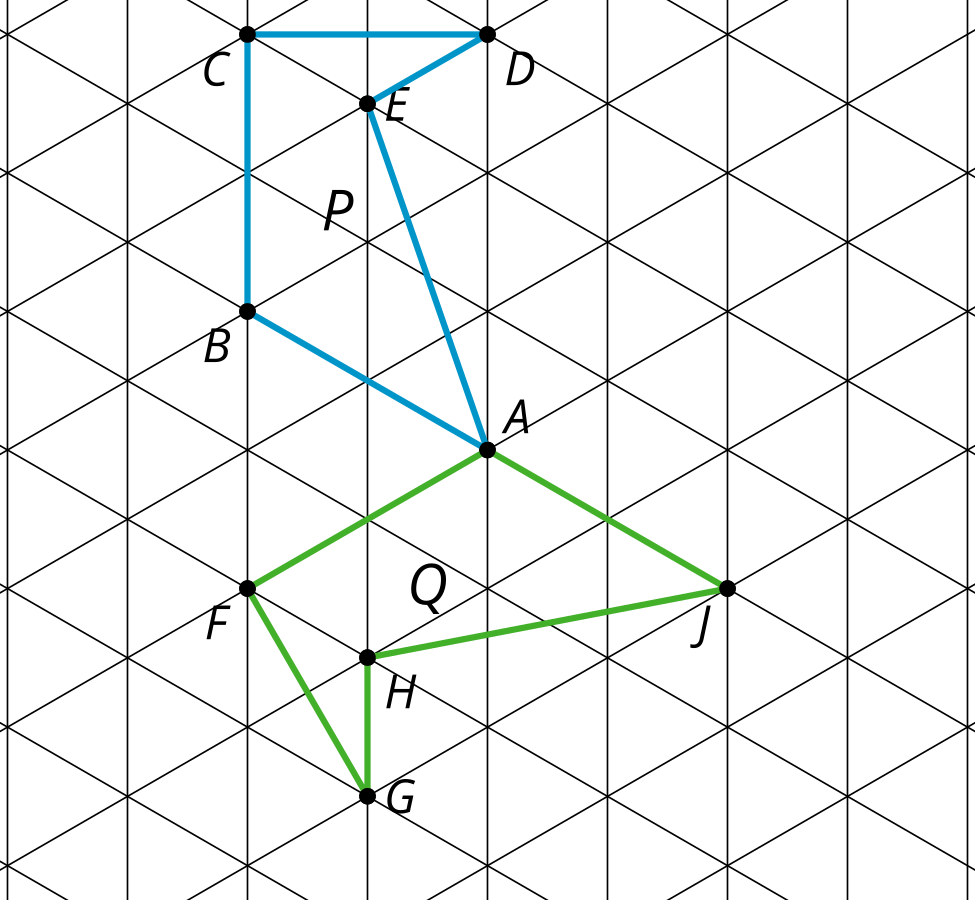
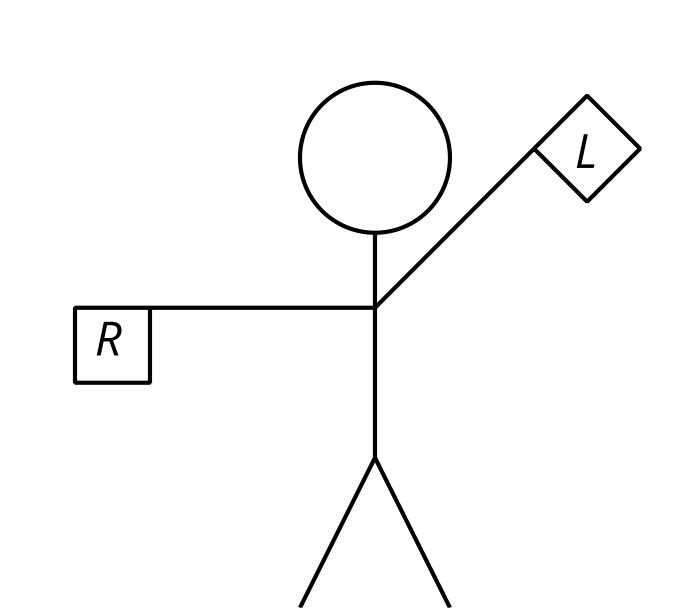
### Lesson 13 Practice Problems

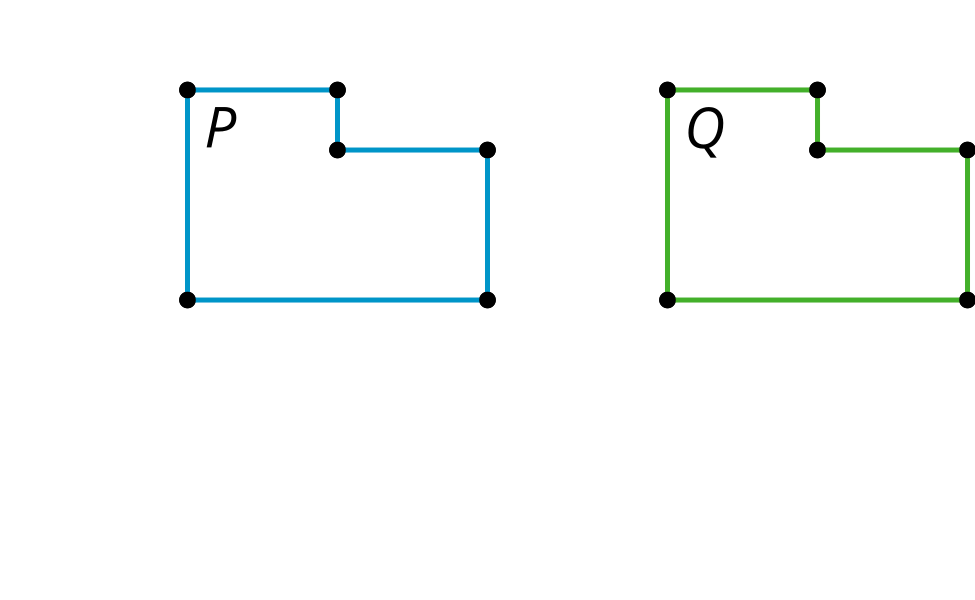
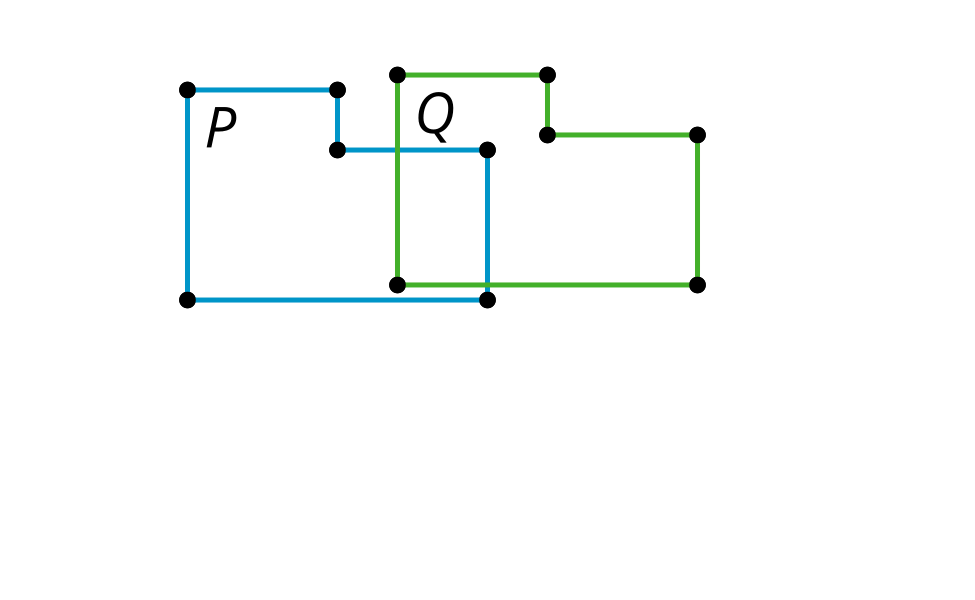
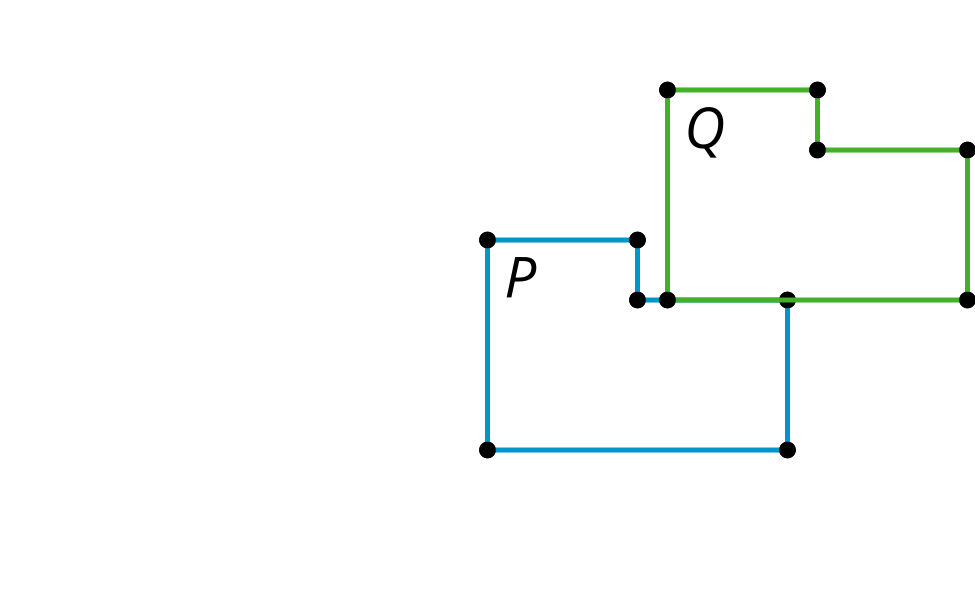
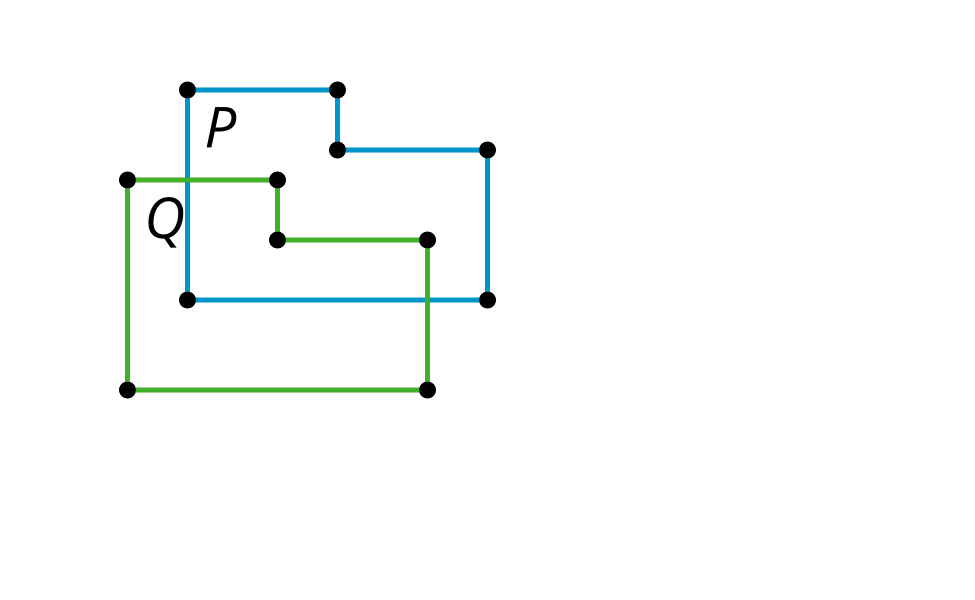
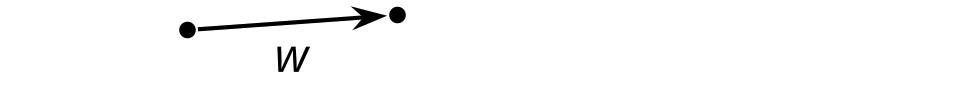
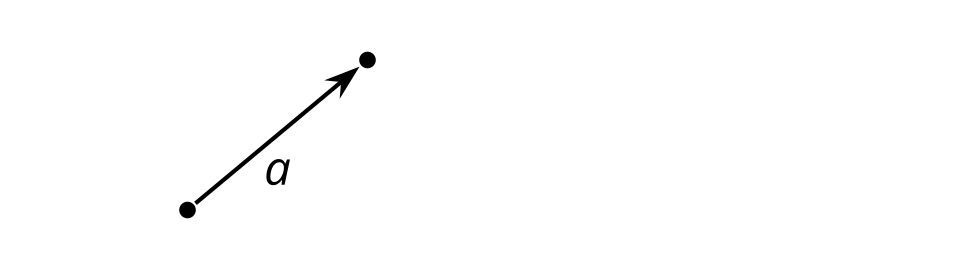
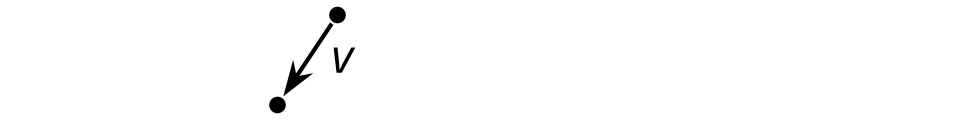
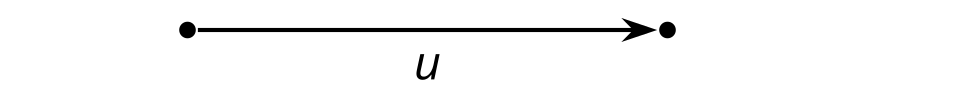
1. Here are 2 polygons:

* Select **all** sequences of translations, rotations, and reflections below that would take polygon to polygon .
* 
  1. Rotate around point .
  2. Rotate counterclockwise around point and then reflect over the line .
  3. Translate so that is taken to . Then reflect over line .
  4. Reflect over line and then translate by directed line segment .
  5. Reflect over the line and then rotate counterclockwise around point .

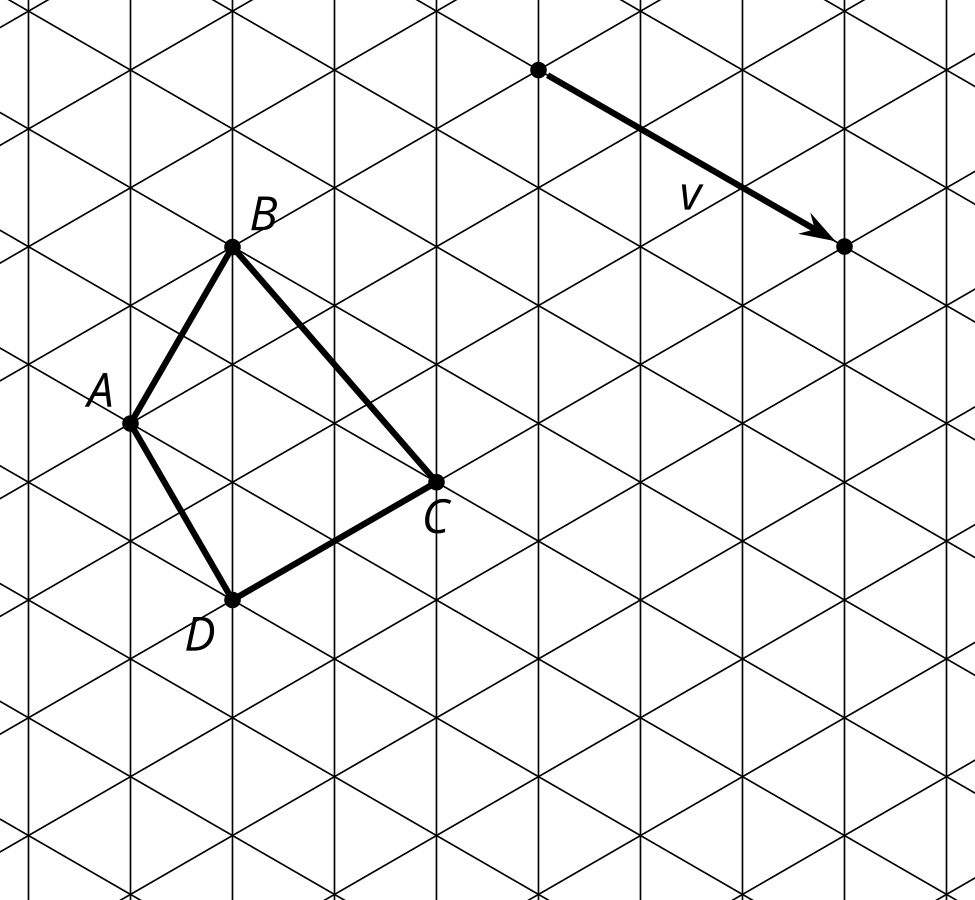
1. The semaphore alphabet is a way to use flags to signal messages. Here's how to signal the letter Q. Describe a transformation that would take the left hand flag to the right hand flag.

* Q
* 

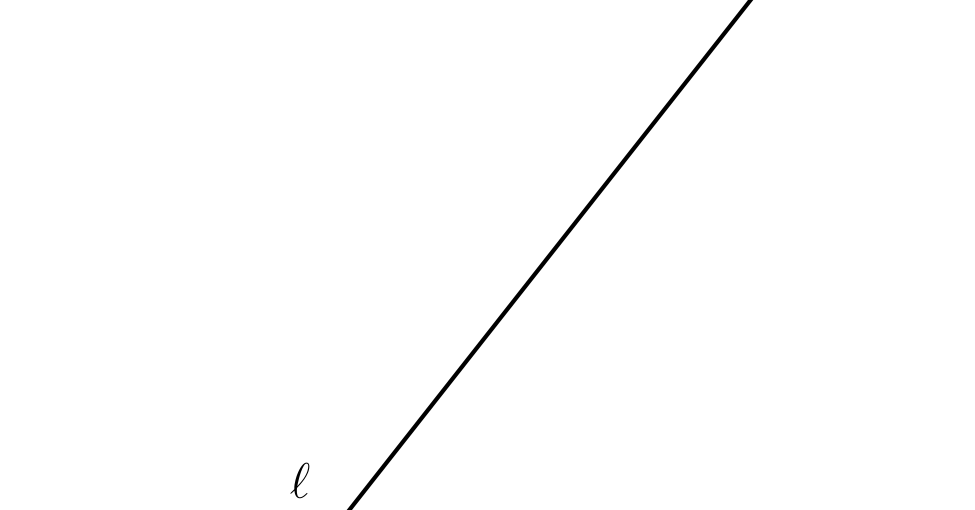
1. Match the directed line segment with the image of Polygon being transformed to Polygon by translation by that directed line segment.

* Translation 1
* 
* Translation 2
* 
* Translation 3
* 
* Translation 4
* 
  1. 
  2. 
  3. 
  4. 
  5. Translation 1
  6. Translation 2
  7. Translation 3
  8. Translation 4
* (From Unit 1, Lesson 12.)

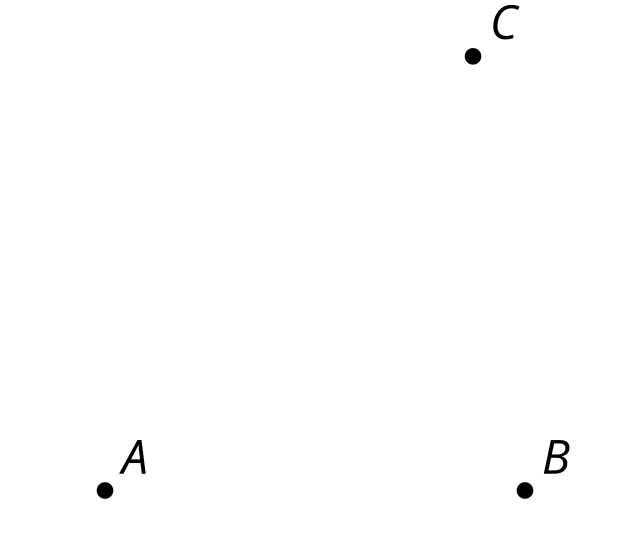
1. Draw the image of quadrilateral when translated by the directed line segment . Label the image of as , the image of as , the image of as , and the image of as .

* 
* (From Unit 1, Lesson 12.)

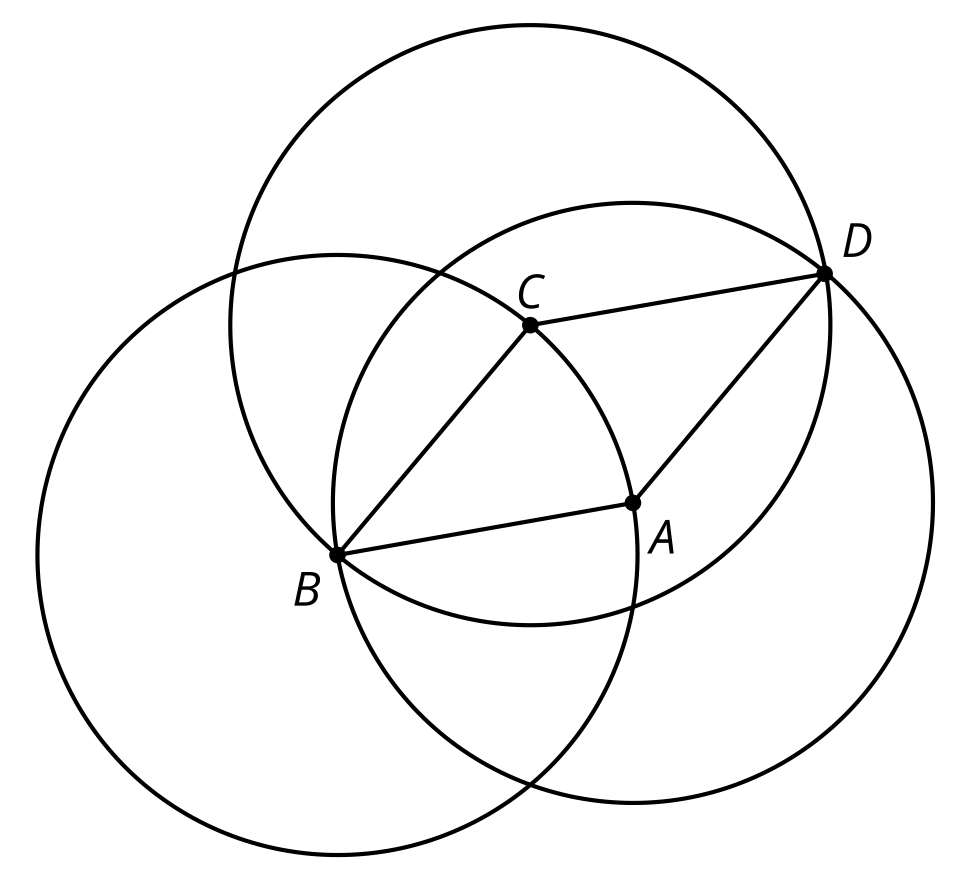
1. Here is a line .

* Plot 2 points, and , which stay in the same place when they are reflected over . Plot 2 other points, and , which move when they are reflected over .
* 
* (From Unit 1, Lesson 11.)

1. 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.

* 
  1. Construct the bisector of angle .
  2. Construct the bisector of angle .
  3. Construct the perpendicular bisector of .
  4. Construct the perpendicular bisector of .
  5. Construct a line perpendicular to through point .
  6. Construct a line perpendicular to through point .
* (From Unit 1, Lesson 9.)

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

* 
* (From Unit 1, Lesson 7.)



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