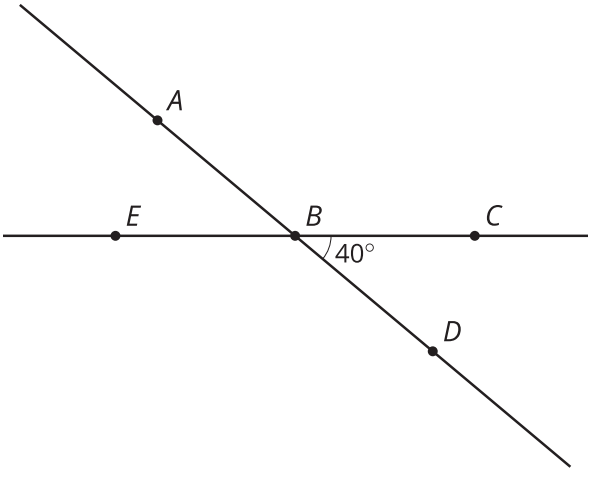
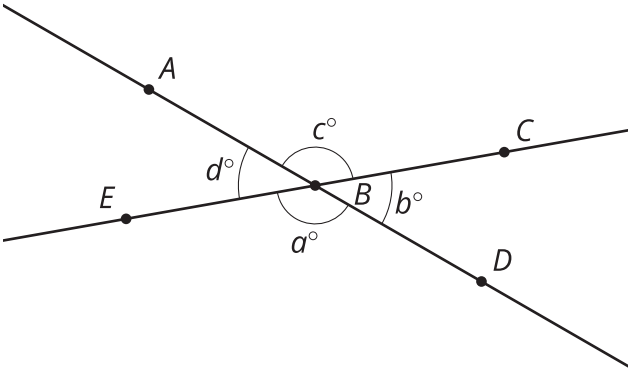
Lesson 19 Practice Problems

1. What is the measure of angle ABE?



2. Select **all** true statements about the figure.



A. $c + b = d + c$

B. $d + b = 180$

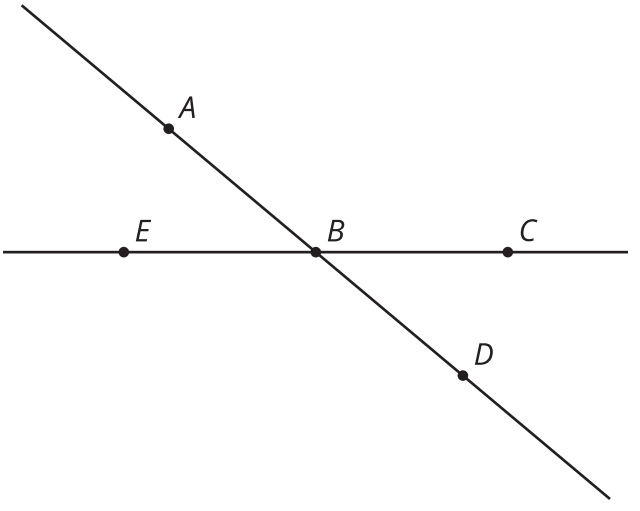
C. Rotate clockwise by angle ABC using center B. Then angle CBD is the image of angle ABE.

D. Rotate 180 degrees using center B. Then angle CBD is the image of angle EBA.

E. Reflect across the angle bisector of angle ABC. Then angle CBD is the image of angle ABE.

F. Reflect across line CE. Then angle CBD is the image of angle EBA

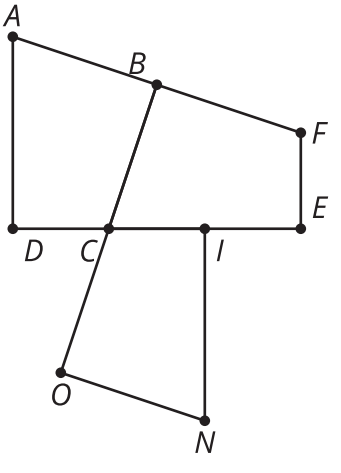
3. Point D is rotated 180 degrees using B as the center. Explain why the image of D must lie on the ray BA.



4. Draw the result of this sequence of transformations.

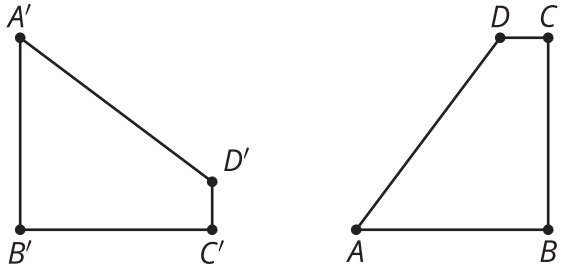
   a. Rotate $ABCD$ clockwise by angle ADC using point D as the center.

   b. Translate the image by the directed line segment DE.



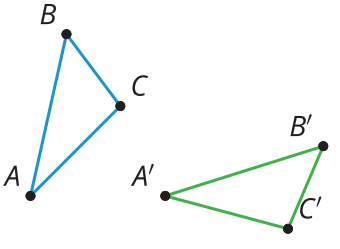
(From Unit 1, Lesson 18.)

5. Quadrilateral $ABCD$ is congruent to quadrilateral $A'B'C'D'$. Describe a sequence of rigid motions that takes A to A', B to B', C to C', and D to D'.



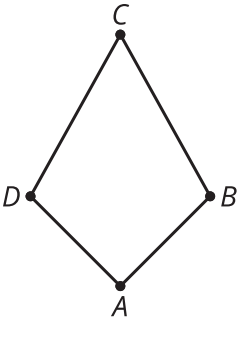
(From Unit 1, Lesson 17.)

6. 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.)

7. In quadrilateral $BADC$, $AB = AD$ and $BC = DC$. The line AC is a line of symmetry for this quadrilateral.

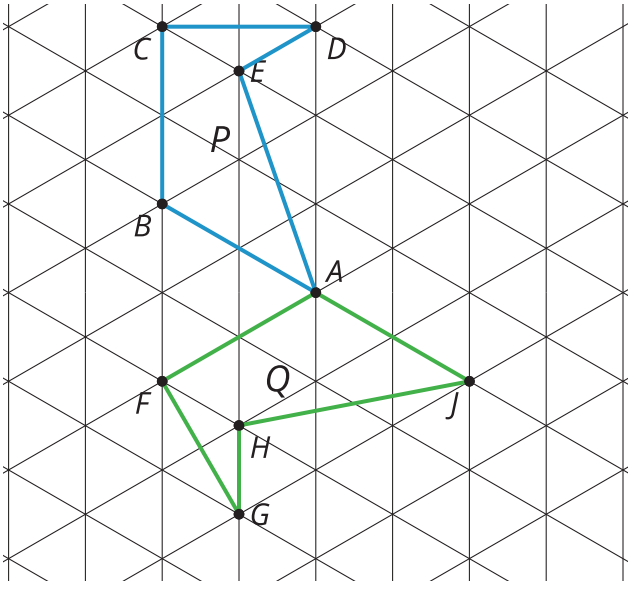


a. Based on the line of symmetry, explain why the diagonals AC and BD are perpendicular.

b. Based on the line of symmetry, explain why angles ACB and ACD have the same measure.

(From Unit 1, Lesson 15.)

8. Here are 2 polygons:



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

A. Reflect over line BA and then translate by directed line segment CB.

B. Translate by directed line segment BA then reflect over line BA.

C. Rotate 60° clockwise around point B and then translate by directed line segment CB.

D. Translate so that E is taken to H. Then rotate 120° clockwise around point H.

E. Translate so that A is taken to J. Then reflect over line BA.

(From Unit 1, Lesson 13.)