Lesson 8 Practice Problems

1. a. Draw parallel lines AB and CD.

   b. Pick any point E. Rotate AB 90 degrees clockwise around E.

   c. Rotate line CD 90 degrees clockwise around E.

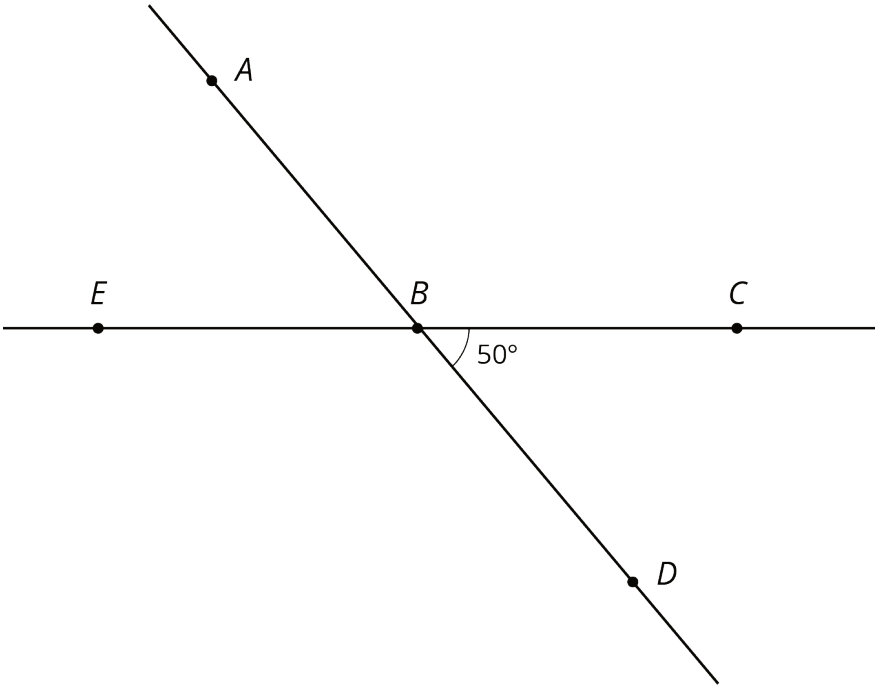
   d. What do you notice?

2. Use the diagram to find the measures of each angle. Explain your reasoning.

   a. $m\angle ABC$

   b. $m\angle EBD$

   c. $m\angle ABE$



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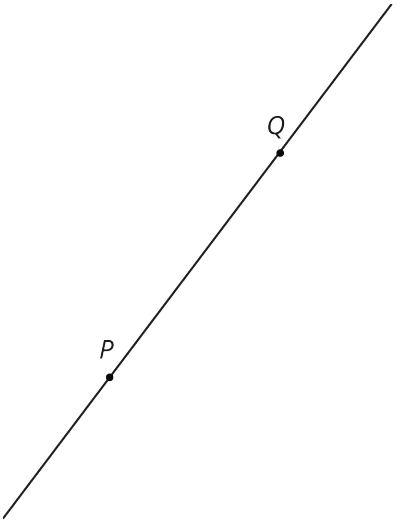
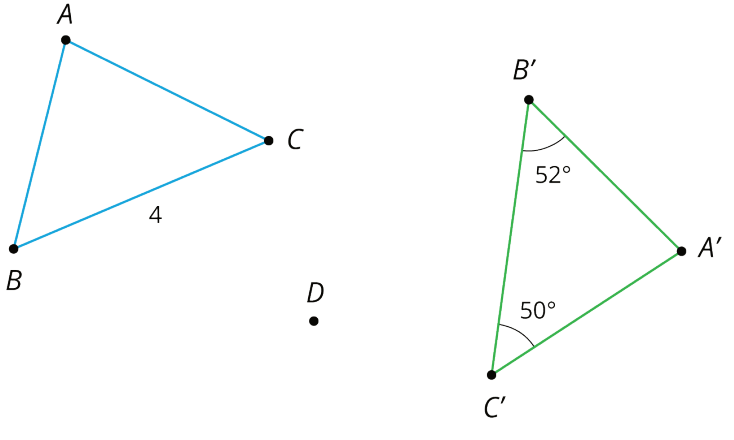
3. Points P and Q are plotted on a line.



a. Find a point R so that a 180-degree rotation with center R sends P to Q and Q to P.

b. Is there more than one point R that works for part a?

4. In the picture triangle $A'B'C'$ is an image of triangle ABC after a rotation. The center of rotation is D.



a. What is the length of side $B'C'$? Explain how you know.

b. What is the measure of angle B? Explain how you know.

c. What is the measure of angle C? Explain how you know.

(From Unit 1, Lesson 6.)

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5. The point $(-4, 1)$ is rotated 180 degrees counterclockwise using center $(0, 0)$. What are the coordinates of the image?

   A. $(-1, -4)$

   B. $(-1, 4)$

   C. $(4, 1)$

   D. $(4, -1)$

(From Unit 1, Lesson 5.)

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