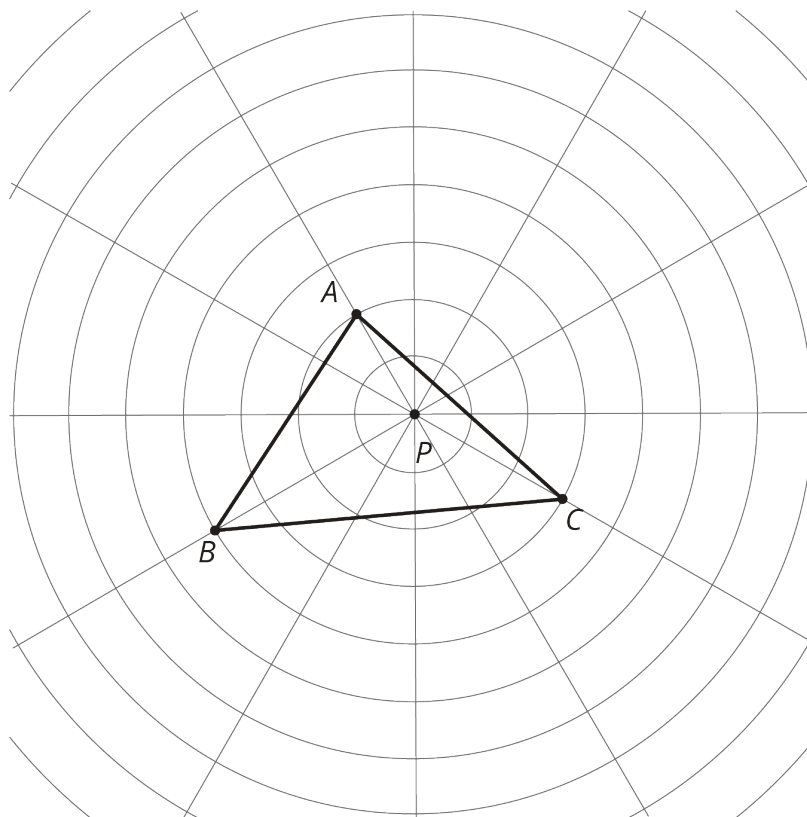


## Lesson 9 Practice Problems

1. Here is triangle  $ABC$ .



- Dilate each vertex of triangle  $ABC$  using  $P$  as the center of dilation and a scale factor of 2. Draw the triangle connecting the three new points.
- Dilate each vertex of triangle  $ABC$  using  $P$  as the center of dilation and a scale factor of  $\frac{1}{2}$ . Draw the triangle connecting the three new points.
- Measure the longest side of each of the three triangles. What do you notice?
- Measure the angles of each triangle. What do you notice?

2. Segment  $AB$  measures 3 cm. Point  $O$  is the center of dilation. How long is the image of  $AB$  after a dilation with . . .

- a. Scale factor 5?
- b. Scale factor 3.7?
- c. Scale factor  $\frac{1}{5}$ ?
- d. Scale factor  $s$ ?

3. Here are points  $A$  and  $B$ . Plot the points for each dilation described.



- a.  $C$  is the image of  $B$  using  $A$  as the center of dilation and a scale factor of 2.
- b.  $D$  is the image of  $A$  using  $B$  as the center of dilation and a scale factor of 2.
- c.  $E$  is the image of  $B$  using  $A$  as the center of dilation and a scale factor of  $\frac{1}{2}$ .
- d.  $F$  is the image of  $A$  using  $B$  as the center of dilation and a scale factor of  $\frac{1}{2}$ .

4. Make a perspective drawing. Include in your work the center of dilation, the shape you dilate, and the scale factor you use.