

**Lesson 3 Practice Problems**

1. 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  $s$ ?
2. 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  $\frac{1}{2}$ .
3. Make a perspective drawing. Include in your work the center of dilation, the shape you dilate, and the scale factor you use.

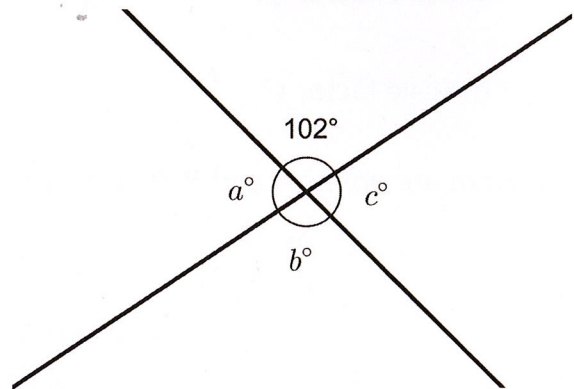
4. Triangle  $ABC$  is a scaled copy of triangle  $DEF$ . Side  $AB$  measures 12 cm and is the longest side of  $ABC$ . Side  $DE$  measures 8 cm and is the longest side of  $DEF$ .

a. Triangle  $ABC$  is a scaled copy of triangle  $DEF$  with what scale factor?

b. Triangle  $DEF$  is a scaled copy of triangle  $ABC$  with what scale factor?

5. The diagram shows two intersecting lines.

Find the missing angle measures.



6. a. Show that the two triangles are congruent.

b. Find the side lengths of  $DEF$  and the angle measures of  $ABC$ .

