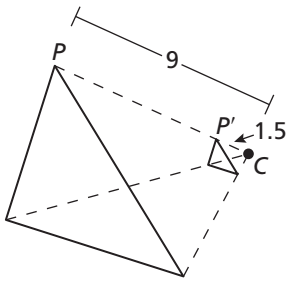
Name_____ Date _____

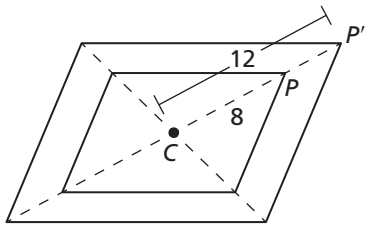
8.1 Practice B

In Exercises 1 and 2, find the scale factor of the dilation. Then tell whether the dilation is a *reduction* or an *enlargement*.

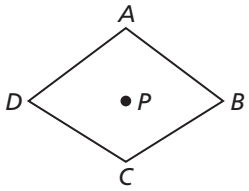
1.



2.



In Exercises 3 and 4, copy the diagram. Then use a compass and straightedge to construct a dilation with the given center and scale factor *k*.



3. Center B, $k = 2$

4. Center P, $k = 75\%$

In Exercises 5 and 6, graph the polygon and its image after a dilation with a scale factor *k*.

5. $J(-3, 4), K(2, 1), L(3, -2), M(-5, -4); k = 50\%$

6. $V(1, 1), W(-1, 0), X(-4, 2), Y(-3, 4), Z(0, 3); k = -3$

7. You look up at the sky at night and see the moon. It looks like it is about 2 millimeters across. If you then look at the moon through a telescope that has a magnification of 40 times, how big will it look to you through the telescope?

8. What would it mean for an object to be dilated with a scale factor of $k = 0$?

9. Your friend claims that if you dilate a rectangle by a certain scale factor, then the perimeter of the object also increases or decreases by the same factor. Is your friend correct? Explain your reasoning.

10. The image shows an object that has been dilated with an unknown scale factor. Use the given measures to determine the scale factor and solve for the value of x.