Module 11   Transformations of Shapes
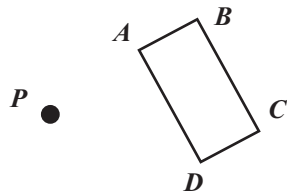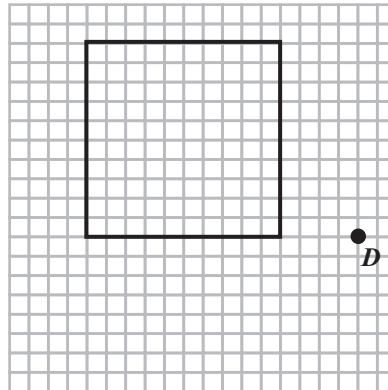**Lesson 3   Dilations**

Construct a dilation with the given center and scale factor.
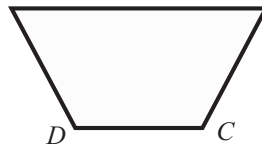
1.   Center: *P*; scale factor: 3

2.   Center: *D*; scale factor: $\frac{1}{2}$

3.   Center: *A*; scale factor: 2

4. A triangle with vertices $A(-2, 3)$, $B(0, -4)$, and $C(6, -4)$ is dilated, and its image points are $A'\left(-\frac{1}{2}, \frac{3}{4}\right)$, $B'(0, -1)$, and $C'\left(1\frac{1}{2}, -1\right)$. What was the scale factor? Was the dilation an enlargement or a reduction?
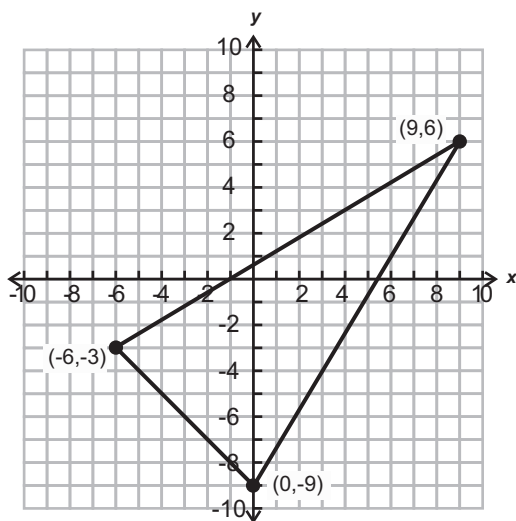
5. A triangle with vertices $A(0, 1)$, $B(-2, -6)$, and $C(1, -4)$ is dilated under a scale factor of $2\frac{1}{2}$. What are the coordinates of the vertices of the image? Was the dilation an enlargement or a reduction?

Draw the dilation with the given scale factor. The center of dilation is (0, 0).

6. Scale factor: $\frac{1}{3}$

7. Scale factor: 4