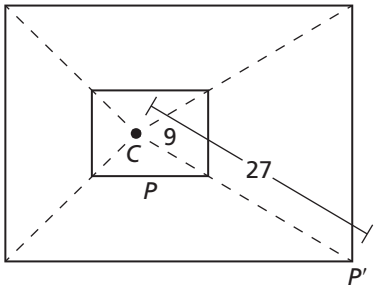
Name_____ Date _____

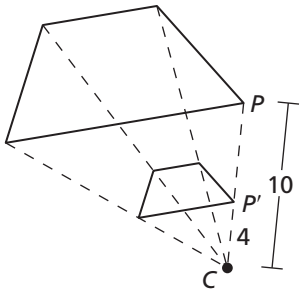
# 4.5 Practice A

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

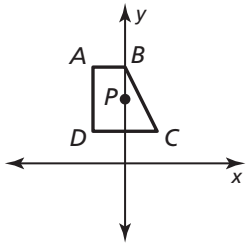
**1.**




**2.**




**In Exercises 3–5, copy the diagram. Then use a compass and straightedge to construct a dilation of quadrilateral *ABCD* with the given center and scale factor *k*.**




**3.** Center $B$, $k = 3$

**4.** Center $P$, $k = \frac{1}{2}$

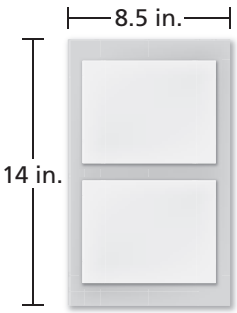
**5.** Center $C$, $k = 75\%$

**In Exercises 6 and 7, graph the polygon and its image after a dilation with a scale factor *k*.**

**6.** $P(1, 2)$, $Q(2, 2)$, $R(4, -2)$, $S(-1, -3)$; $k = 2$

**7.** $A(-4, 4)$, $B(-2, 6)$, $C(1, -1)$, $D(-2, -4)$; $k = -75\%$

**8.** A standard piece of paper is 8.5 inches by 11 inches. A piece of legal-size paper is 8.5 inches by 14 inches. By what scale factor $k$ would you need to dilate the standard paper so that you could fit two pages on a single piece of legal paper?




**9.** The old film-style cameras created photos that were best printed at 3.5 inches by 5 inches. Today's new digital cameras create photos that are best printed at 4 inches by 6 inches. Neither size picture will scale perfectly to fit in an 11-inch by 14-inch frame. Which type of camera will you minimize the loss of the edges of your picture?

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

**11.** Would it make sense to state "A dilation has a scale factor of 1?" Explain your reasoning.