

Name \_\_\_\_\_

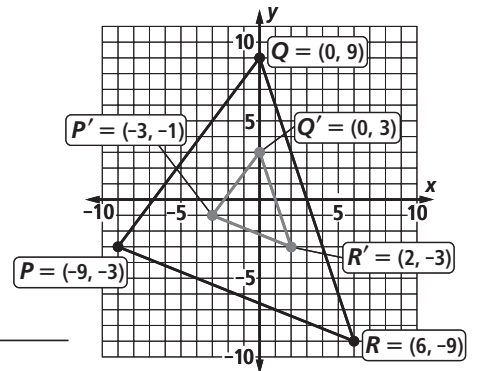
# 4-4A Lesson Master

## Questions on SPUR Objectives

See Student Edition pages 293–297 for objectives.

### PROPERTIES Objective F

In the figure at the right,  $P'Q'R'$  is the image of  $PQR$  under a size change.



- Find the magnitude of the size change. \_\_\_\_\_
- Find the distance  $PQ$ . \_\_\_\_\_
  - Find the distance  $P'Q'$  without using the Pythagorean Distance Formula. \_\_\_\_\_
- Find the slopes of  $\overline{PQ}$  and  $\overline{P'Q'}$ .
  - $\overline{PQ}$  \_\_\_\_\_
  - $\overline{P'Q'}$  \_\_\_\_\_
- True or False** A line segment and its image under a size change are always congruent. \_\_\_\_\_
- True or False** A line segment and its image under a size change are always parallel. \_\_\_\_\_
- $S_4(3, -1) =$  \_\_\_\_\_
  - $S_4(x, y) =$  \_\_\_\_\_
  - If  $S_4(p, q) = (18, -7)$ , then  $(p, q) =$  \_\_\_\_\_

### PROPERTIES Objective G

- Give the matrix associated with the size change in Question 1. \_\_\_\_\_
- Fill in the Blank** The matrix  $\begin{bmatrix} \frac{2}{5} & 0 \\ 0 & \frac{2}{5} \end{bmatrix}$  represents a size change of magnitude \_\_\_\_\_.

### REPRESENTATIONS Objective K

- Let  $ABCD = \begin{bmatrix} 2 & 2 & 5 & 5 \\ 0 & 4 & 4 & -2 \end{bmatrix}$ .
  - Graph  $ABCD$  at the right.
  - At the right, graph  $A'B'C'D'$ , the image of  $ABCD$  under  $S_{1.5}$ .
  - Calculate the distances  $AD$  and  $A'D'$ .  
 $AD =$  \_\_\_\_\_  $A'D' =$  \_\_\_\_\_
  - Calculate the ratio  $\frac{A'D'}{AD}$ . \_\_\_\_\_

