

Name \_\_\_\_\_

# 4-5A Lesson Master

## Questions on SPUR Objectives

See Student Edition pages 293–297 for objectives.

### PROPERTIES Objective F

1. **Fill in the Blanks** Write *stretch* or *shrink*: The scale change  $S_{\frac{1}{2}, 4}$  represents a horizontal \_\_\_\_\_ and a vertical \_\_\_\_\_.



2. **Matching** The preimage of a stop sign is shown at the right. Match each scale change with the image of the sign under that scale change.

a.  $S_{\frac{1}{4}, 2}$  \_\_\_\_\_

b.  $S_{3, \frac{1}{2}}$  \_\_\_\_\_

c.  $S_{1, \frac{3}{10}}$  \_\_\_\_\_



3. Give an example of a scale change that results in an image that

a. is similar to its preimage. \_\_\_\_\_

b. is not similar to its preimage. \_\_\_\_\_

4. a.  $S_{2,3}(4, -2) =$  \_\_\_\_\_.

b.  $S_{2,3}(x, y) =$  \_\_\_\_\_.

c. If  $S_{2,3}(p, q) = (14, -9)$ , then  $(p, q) =$  \_\_\_\_\_.

### PROPERTIES Objective G

5. Describe the scale change represented by  $\begin{bmatrix} 4 & 0 \\ 0 & 1.5 \end{bmatrix}$ . \_\_\_\_\_

6. Write the matrix for a scale change with horizontal magnitude 3 and vertical magnitude  $\frac{3}{4}$ . \_\_\_\_\_

### REPRESENTATIONS Objective K

7. Let  $QUAD = \begin{bmatrix} -3 & -3 & 4 & 6 \\ -2 & 4 & 5 & -2 \end{bmatrix}$

a. At the right, graph  $QUAD$  and its image under  $S_{1.5, 0.5}$ .

b. Name a segment of  $QUAD$  that is parallel to its image.  
\_\_\_\_\_

c. Name a segment of  $QUAD$  that is *not* parallel to its image.  
\_\_\_\_\_

