

Name _____

4-5B Lesson Master

Questions on SPUR Objectives

See Student Edition pages 293–297 for objectives.

PROPERTIES Objective F

1. **True or False** A figure and its scale-change image are similar. _____

In 2–7, $\triangle A'B'C'$ is the image of $\triangle ABC$ under a scale change $S_{0.5,4}$.

2. If $A = (4, -2)$, what are the coordinates of A' ? _____

3. If $A' = (3, 12)$, what are the coordinates of A ? _____

4. Is $\triangle ABC$ similar to $\triangle A'B'C'$? _____

5. Is this scale change a size change? _____

6. In which direction is $\triangle ABC$ stretched? _____

7. In which direction is $\triangle ABC$ shrunk? _____

PROPERTIES Objective G

In 8–12, give the scale-change matrix corresponding to each given transformation.

8. a vertical shrink of $\frac{1}{2}$ and a horizontal stretch of 3

9. $S_{2,9}$

10. vertical stretch of 2 and a horizontal shrink of $\frac{2}{3}$

11. $S_{5,2}$

12. the transformation that maps $(3, -9)$ onto $(1.5, -3)$ _____

Name _____

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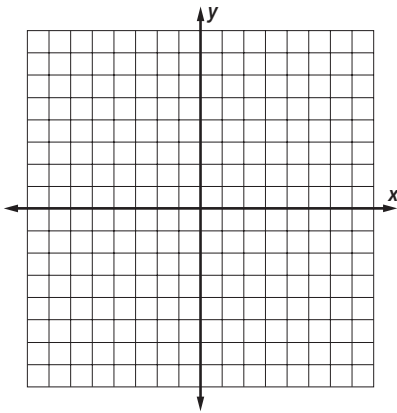
page 2

13. $\begin{bmatrix} 5 & 0 \\ 0 & 0.8 \end{bmatrix}$ is associated with what transformation? _____

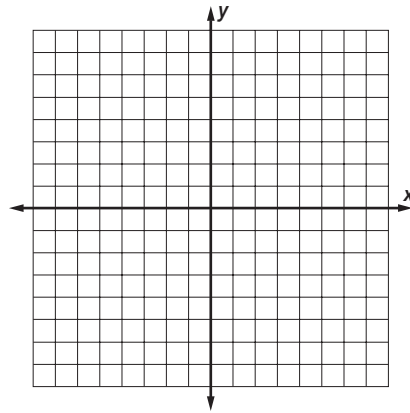
14. **Fill in the Blank** If $\begin{bmatrix} a & 0 \\ 0 & 4 \end{bmatrix}$ is associated with a size change, then $a =$ _____. _____

REPRESENTATIONS Objective K

15. Below graph the polygon $\begin{bmatrix} -3 & 3 & 3 & 1 \\ -6 & 0 & 6 & 4 \end{bmatrix}$ and its image under $S_{2, \frac{2}{3}}$.



16. Below graph the polygon $\begin{bmatrix} 4 & 3 & -3 \\ 1 & -3 & 4 \end{bmatrix}$ and its image under $\begin{bmatrix} 2 & 0 \\ 0 & 1 \end{bmatrix}$.



17. Below graph the polygon $\begin{bmatrix} -3 & -3 & 0 \\ 0 & 5 & 0 \end{bmatrix}$ and its image under $\begin{bmatrix} \frac{2}{3} & 0 \\ 0 & 2 \end{bmatrix}$.

- What type of triangle is the preimage?

- What type of triangle is the image?

- Are the image and preimage congruent?

- Are the image and preimage similar?

