

UNIT 7: TRANSFORMATIONS

TEST REVIEW HELP!

Write the general rule for the dilation.

LG \rightarrow SM = reduction

6. $(21, 6) \rightarrow (7, 2)$ $(x, y) \rightarrow (\frac{1}{3}x, \frac{1}{3}y)$

SF = $\frac{1}{3}$

$\frac{\text{New}}{\text{Old}} = \text{Scale Factor}$

SM \rightarrow LG = enlarge

7. $(2, 15) \rightarrow (4, 30)$ $(x, y) \rightarrow (2x, 2y)$

SF = 2

10) For each figure state the order and the angle of rotation.



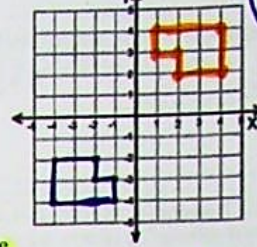
Order 6
Angle 60°



Order 8
Angle 45°

11) Rotate the figure 180° about the origin.

$(-4, -2) \rightarrow (4, 2)$
 $(-4, -4) \rightarrow (4, 4)$
 $(-2, -2) \rightarrow (2, 2)$
 $(-2, -3) \rightarrow (2, 3)$
 $(-1, -3) \rightarrow (1, 3)$
 $(-1, -4) \rightarrow (1, 4)$

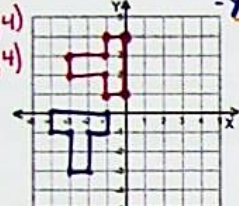


Write a general rule for the transformation:

$(x, y) \rightarrow (-x, -y)$

10) Rotate the figure 90° clockwise about the origin.

$(-1, 0) \rightarrow (0, 1)$ $(-4, 0) \rightarrow (0, 4)$
 $(-1, -1) \rightarrow (-1, 1)$ $(-4, -1) \rightarrow (-4, 1)$
 $(-2, -1) \rightarrow (-1, 2)$
 $(-2, -3) \rightarrow (-3, 2)$
 $(-3, -1) \rightarrow (-1, 3)$
 $(-3, -3) \rightarrow (-3, 3)$

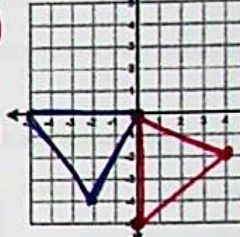


Write a general rule for the transformation:

$(x, y) \rightarrow (y, -x)$

11) Rotate the figure 90° counterclockwise about the origin.

$(-5, 0) \rightarrow (0, -5)$
 $(0, -5) \rightarrow (5, 0)$
 $(0, 0) \rightarrow (0, 0)$
 $(-2, -4) \rightarrow (4, -2)$

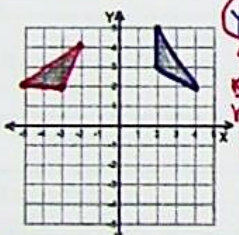


Write a general rule for the transformation:

$(x, y) \rightarrow (-y, x)$

10) Rotate the figure 90° counterclockwise about the origin.

$(2, 3) \rightarrow (-3, 2)$
 $(2, 5) \rightarrow (-5, 2)$
 $(4, 2) \rightarrow (-2, 4)$

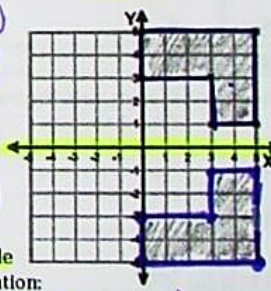


Write a general rule for the transformation:

$(x, y) \rightarrow (-y, x)$

11) Reflect the figure over the x-axis.

$(0, 5) \rightarrow (0, -5)$
 $(0, 3) \rightarrow (0, -3)$
 $(3, 1) \rightarrow (3, -1)$
 $(3, 3) \rightarrow (3, -3)$
 $(5, 1) \rightarrow (5, -1)$
 $(5, 5) \rightarrow (5, -5)$

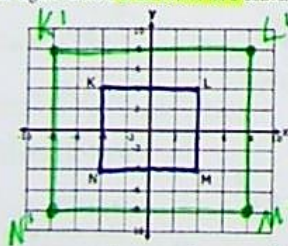


Write a general rule for the transformation:

$(x, y) \rightarrow (x, -y)$

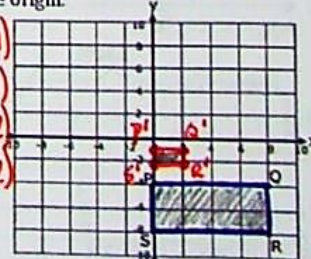
10) Dilate the figure with a scale factor of 2 centered at the origin.

$K(-4, 4)$
 $L(4, 4)$
 $M(4, -4)$
 $N(-4, -4)$



$K'(-8, 8)$
 $L'(8, 8)$
 $M'(8, -8)$
 $N'(-8, -8)$

$P(0, -4) \rightarrow P'(0, -1)$
 $Q(8, -4) \rightarrow Q'(2, -1)$
 $R(8, -8) \rightarrow R'(2, -2)$
 $S(0, -8) \rightarrow S'(0, -2)$



Write a general rule for the transformation:

$(x, y) \rightarrow (2x, 2y)$

Write a general rule for the transformation:

$(x, y) \rightarrow (\frac{x}{4}, \frac{y}{4})$

State the scale factor of the following dilations:

3. $(3, 4) \rightarrow (\frac{12}{3}, \frac{16}{4})$ 4

4. $(-15, 50) \rightarrow (-3, 10)$ $\frac{1}{5}$

5. $(1, 9) \rightarrow (6, 54)$ 6

scale factor = $\frac{\text{new}}{\text{old}}$