

Directions: Write the rule of the transformation.

1) A segment AB is dilated by a scale factor of 5

$$(x, y) \rightarrow (5x, 5y)$$

3) A square MNOP is stretched horizontally by a scale factor of 1.25

$$(x, y) \rightarrow (1.25x, y)$$

2) A triangle DEF is dilated by a scale factor of $\frac{1}{4}$

$$(x, y) \rightarrow (\frac{1}{4}x, \frac{1}{4}y)$$

4) A line segment JK is stretched vertically by a scale factor of 3

$$(x, y) \rightarrow (x, 3y)$$

Directions: Describe the transformation. (This is a mixed review).

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

ref. over $y=x$

6) $(x, y) \rightarrow (5x, 5y)$

dil. by s.f. of 5

7) $(x, y) \rightarrow (3x, y)$

horiz. str. by s.f. 3

8) $(x, y) \rightarrow (\frac{x}{5}, \frac{y}{5})$

dil. by s.f. of $\frac{1}{5}$

9) $(x, y) \rightarrow (x+8, y)$

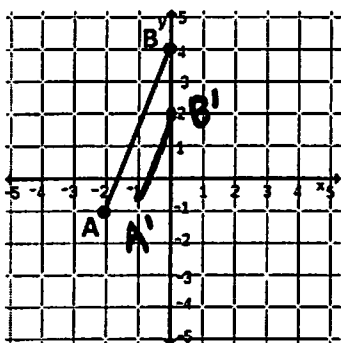
trans. of right 8

*10) $(x, y) \rightarrow (3x+2, y-3)$

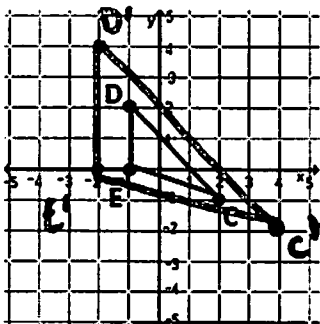
horiz. str. by 3 then trans. right 2 & down 3

Directions: Complete the transformation of the new image. If the rule was provide, describe the transformation. If the transformation was described, write the rule.

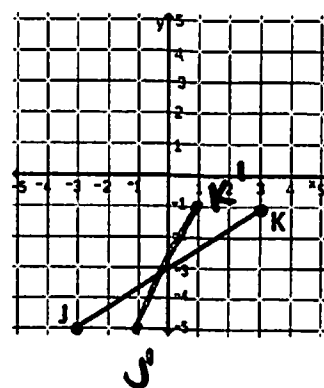
11) $AB(x, y) \rightarrow A'B'(\frac{1}{2}x, \frac{1}{2}y)$



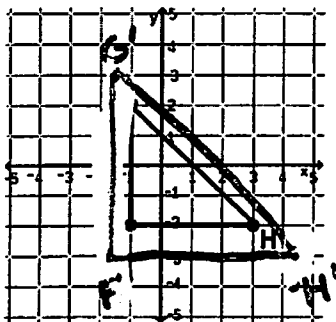
12) $CDE(x, y) \rightarrow C'D'E'(2x, 2y)$



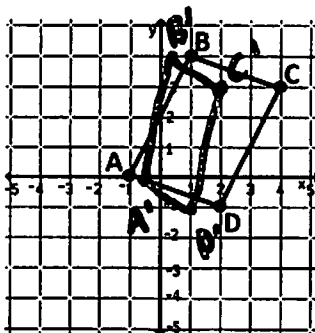
13) $JK(x, y) \rightarrow J'K'(\frac{x}{3}, y)$



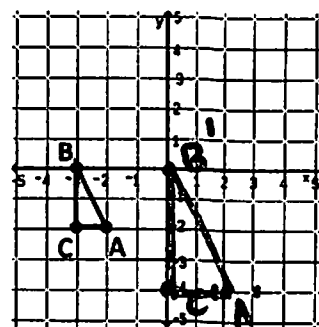
14) Dilate FGH by a scale factor of 1.5



15) Horizontally shrink ABCD by a scale factor of $\frac{1}{2}$



*16) Translate ABC 3 units right, then dilate by a s. f. of 2



Directions: Find the missing point using the given information.

17) $A(0, -6)$

Rule: $(x, y) \rightarrow (\frac{2}{3}x, \frac{2}{3}y)$

Find A' .

$$A'(0, -4)$$

18) $B'(7, -2)$

Description: Dilate by 0.2

Find B.

$$B(35, -10)$$

19) Pre-Image: $(8, 1)$

Description: Horizontal shrink by $\frac{1}{4}$

Find the image.

$$(2, 1)$$

20) Image: $(-2, -40)$

Rule: $(x, y) \rightarrow (5x, 5y)$

Find the pre-image.

$$(-\frac{2}{5}, -8)$$

Directions: Solve each problem.

21) A triangle has vertices of $M(0, 0)$, $A(0, 15)$, and $R(-20, 0)$. After a dilation, $\triangle MAR$ has two image coordinates of $M'(0, 0)$ and $R'(-50, 0)$. What is the ordered pair that represents A' ?

$$A'(0, 37.5)$$

22) In the rule, $(x, y) \rightarrow (x, 8y)$, what transformation has occurred?

vertical stretch by a s.f. of 8

23) Meg was given the following rule: $(x, y) \rightarrow (-5x, -5y)$. Meg states that the type of transformation that has occurred is a dilation by a scale factor of -5 .

a) Can a negative sign be used to describe a dilation?

no

b) Explain the role of the negative symbol in this sequence of transformations.

it shows one of the transformations is a rotation

24) $B''(5, 12)$ was produced after a horizontal shrink of $\frac{1}{2}$ and a vertical stretch of 4. What is the ordered pair that represents the pre-image, B?

$$B(10, 3)$$