**1.8 HW Dilations with Origin Center Geometry**

**Directions: Write the rule of the transformation.**

1) A segment AB is dilated by a scale factor of 5 2) A triangle DEF is dilated by a scale factor of

3) A square MNOP is stretched horizontally by 4) A line segment JK is stretched vertically by

a scale factor of 1.25 a scale factor of 3

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

5) (x, y) → ‘(–y, –x) 6) (x, y) → ‘(5x, 5y) 7) (x, y) → ‘(3x, y)

8) (x, y) → ‘ 9) (x, y) → ‘(x + 8, y) \*10) (x, y) → ‘‘ (3x + 2, y – 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) → A’B’ 12) CDE (x, y) → C’D’E’ (2x, 2y) 13) JK(x, y) → J’K’





**B**

**D**

**C**

**E**

**K**

**A**

**J**

14) Dilate FGH by a scale 15) Horizontally shrink ABCD \*16) Translate ABC 3 units right,

factor of 1.5 by a scale factor of ½ then dilate by a s. f. of 2



**C**

**B**

**G**

**B**

**A**

**D**

**A**

**C**

**H**

**F**

**Directions: Find the missing point using the given information.**

17) A(0, –6) 18) B’(7, –2)

Rule: (x, y) → ‘( x, y) Description: Dilate by 0.2

Find A’. Find B.

19) Pre-Image: (8, 1) 20) Image: (–2, –40)

Description: Horizontal shrink by Rule: (x, y) → ‘(5x, 5y)

Find the image. Find the pre-image.

**Directions: Solve each problem.**

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

22) In the rule, (x, y)‘(x, 8y), what transformation has occurred?

23) Meg was given the following rule: (x, y)‘‘(–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?

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

24) B’’(5, 12) was produced after a horizontal shrink of and a vertical stretch of 4. What is the ordered pair that represents the pre-image, B?