

### Day 1 – Dilations and Scale Factors – Practice

1. Determine if the following scale factors will result in an enlargement, reduction, or congruence:

- |                  |                |              |                         |           |
|------------------|----------------|--------------|-------------------------|-----------|
| A. $\frac{5}{6}$ | B. 150%<br>1.5 | C. 100%<br>1 | D. $\frac{5}{4} = 1.25$ | E. 0.4    |
| reduction        | enlargement    | congruence   | enlargement             | reduction |

2. If segment AB has a length of 3 units and is dilated by a scale factor of 2.25, what is the length of AB? Is this an enlargement or reduction?

$$3 \times 2.25 = 6.75 \text{ units}$$

enlargement ( $>1$ )

3. What are the side lengths of  $\triangle D'E'F'$  with a scale factor of 2.5 given that  $DE = 1$ ,  $EF = 9.2$ , and  $FD = 8.6$ ?

$$DE = 1 \times 2.5 = 2.5$$

$$EF = 9.2 \times 2.5 = 23$$

$$FD = 8.6 \times 2.5 = 21.5$$

4.  $\triangle ABC$  has vertices  $D(25, 25)$ ,  $E(15, 10)$ , and  $F(20, 10)$ . What are the vertices of the image after a dilation with a scale factor of  $\frac{1}{5}$  using the origin as the center of dilation?

$\div$  by 5

$$D(5, 5)$$

$$E(3, 2)$$

$$F(4, 2)$$

5.  $\triangle JKL$  has vertices  $J(8, 2)$ ,  $K(6, 0)$ , and  $L(4, 10)$ . What are the vertices of the image after a dilation with a scale factor of 250% using the origin as the center of dilation?

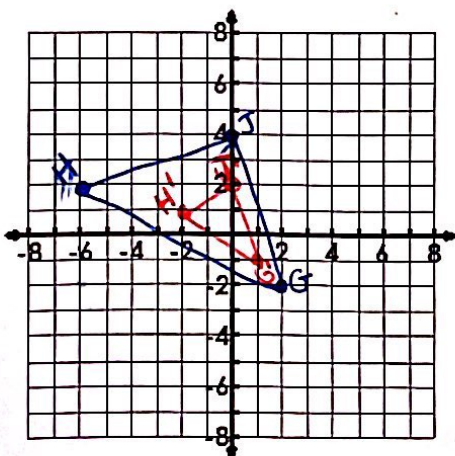
$\times 2.5$

$$J(20, 5)$$

$$K(15, 0)$$

$$L(10, 25)$$

6. A triangle has vertices  $G(2, -2)$ ,  $H(-6, 2)$ , and  $J(0, 4)$ . If the triangle is dilated by a scale factor of 0.5 through the center  $(0,0)$ , what are the image vertices? Draw the pre-image and image on the coordinate plane.



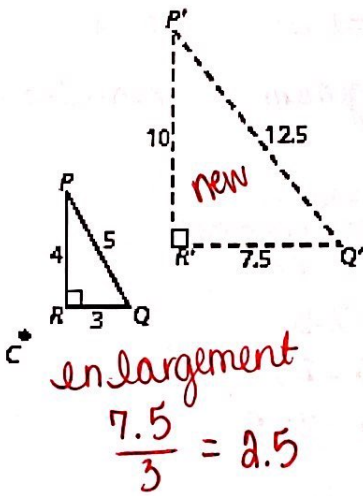
$$G'(-1, -1)$$

$$H'(-3, 1)$$

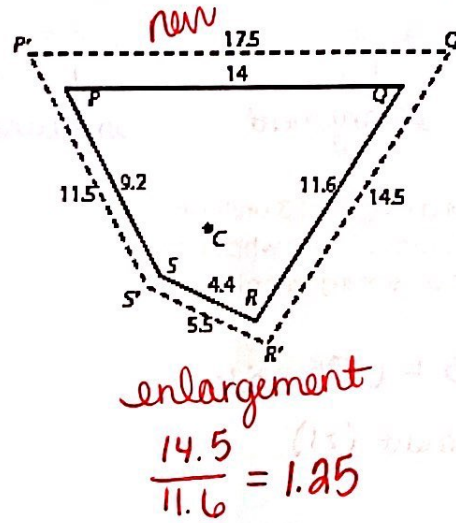
$$J'(0, 2)$$

7. Determine the scale factor and whether the dilation is an enlargement, reduction, or congruency transformation. The dotted figure is the new image.

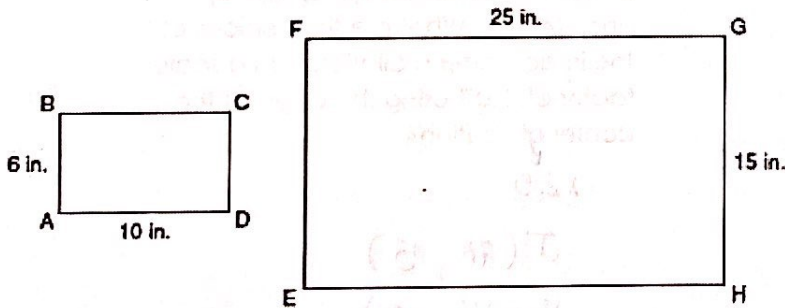
A.



B.



8. Rectangle ABCD is similar to Rectangle EFGH. What is the scale factor from rectangle ABCD to rectangle EFGH?



enlargement  
 $\frac{15}{6} = 2.5$