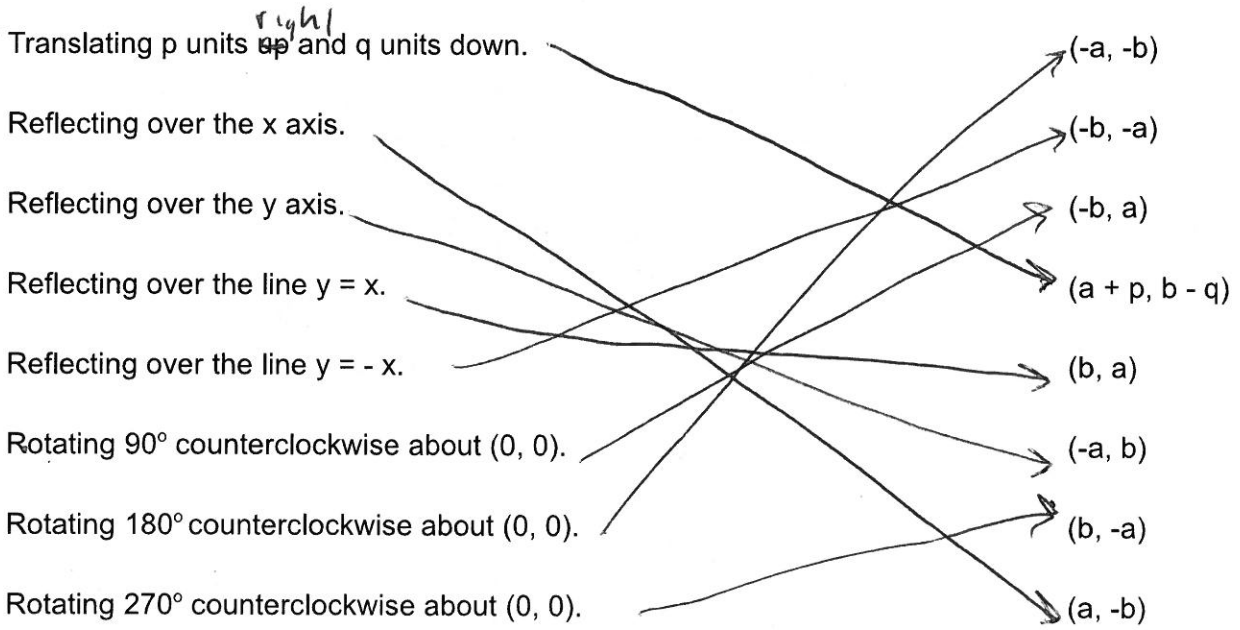
Name: AK Period: _____ Date: _____

Unit 4 Transformations Practice Test\

1.Matching. Match the first blank with the second blank.

The rule for _____ is (a, b) → _____ .



2. Point A(-12, b+3) is translated along the vector <1, -7> to create the image A'(a – 12, -10). Find a and b.

$-12+1=a-12$

$b+3-7=-10$

$b-4=-10$

$b=-6$

a = 1 b = -6

3. Graph the triangle ABC with vertices A (3, 0), B (-2, 3), C (1, 4). Then graph the image A'B'C' after a 90° rotation counterclockwise about the origin. Then take A'B'C' (not to original) and reflect it over x = 1 to graph A"B"C". Record the coordinates in the space provided on the left.

A'(0 , 3)

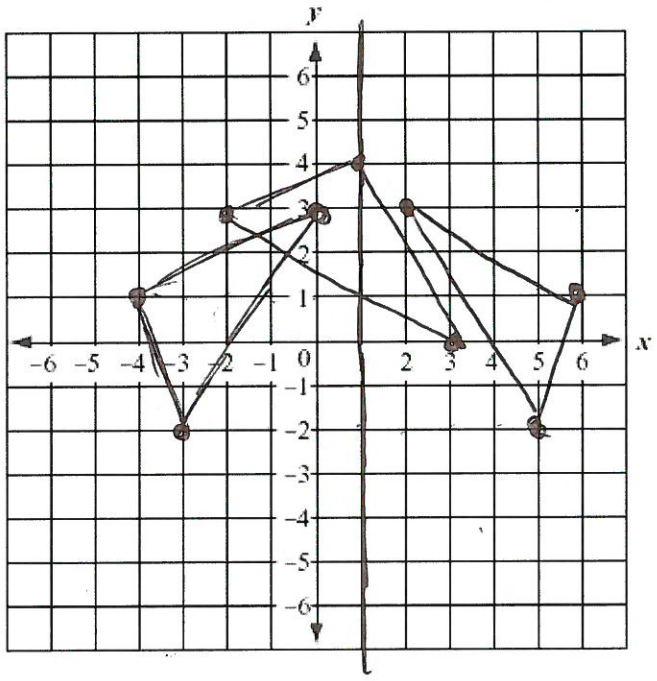
B'(-3 , -2)

C'(-4 , 1)

A"(2 , 3)

B"(5 , -2)

C"(6 , 1)



4. Graph the triangle ABC with vertices A (-1, 2), B (3, -1), C (0, 2). Then dilate ABC about the origin using the scale factor k = 2 to graph the image A'B'C'. Then take A'B'C' (not the original) and translate it using the rule (x,y)→(x - 2, y - 1) to graph A"B"C". Record the coordinates in the space provided on the left.

A'(-2 , 4)

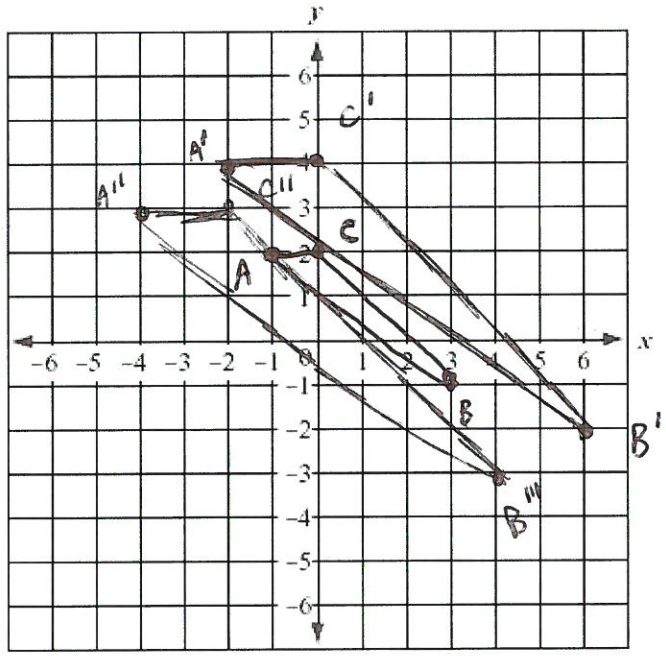
B'(6 , -2)

C'(0 , 4)

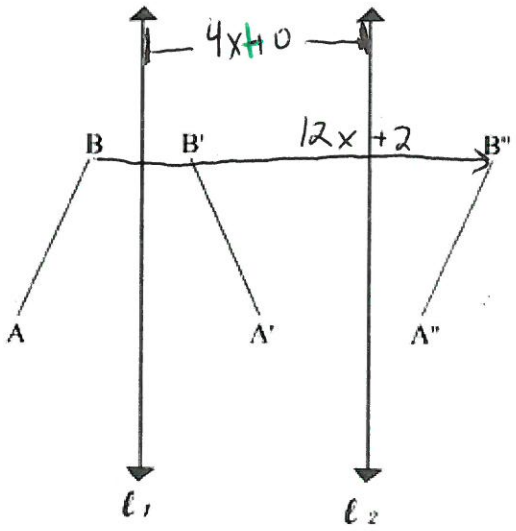
A"(-4 , 3)

B"(4 , -3)

C"(-2 , 3)



5. Segment AB is reflected over line 1 to create A'B', then A'B' is reflected over line 2 to create A"B". The distance between lines 1 and 2 is 4x - 10 inches and a translation of 12x + 2 inches to the right maps AB onto A"B". Find the distance between BB".



$2(4x+10) = 12x+2$

$8x+20 = 12x+2$

$\frac{18}{4} = \frac{4x}{4}$

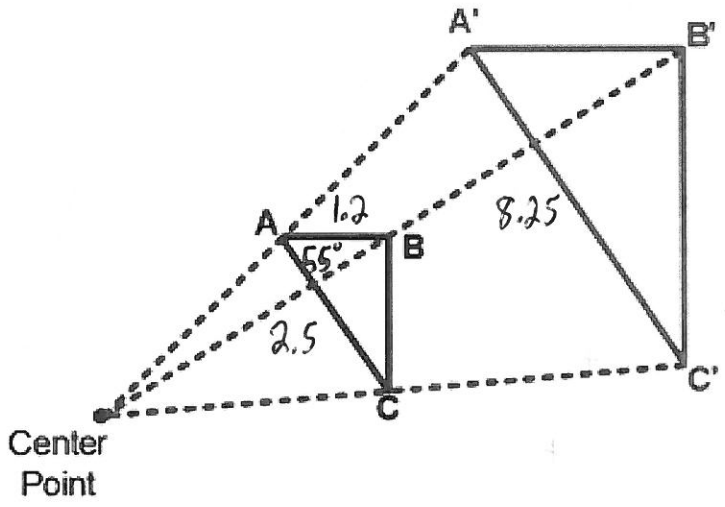
$\frac{9}{2}$

$x = \frac{9}{2}$, $BB'' = 56$ in

7. Which scale factor would result in a dilation that would make the figure bigger? Select all that apply.

a) 1/3 b) 3 c) -3/2 d) 0.7 e) – 2/5 f) 2.3 g) -0.92

8. Triangle ABC is dilated to create image A'B'C'. Given Angle A is 55^0, AC is 2.5 units long, A'C' is 8.25 units long, and AB is 1.2 units long. Find the scale factor, the find the length of side A'B' and the measure of angle A'

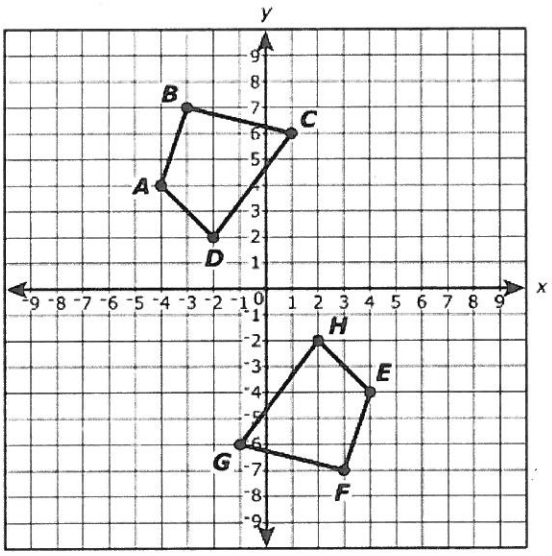


$\frac{8.25}{2.5}$

1.2×3.3

Scale Factor: 3.3 Angle A = 55° A'B'= 3.96

9. Quadrilateral EFGH is the image of ABCD after a transformation or sequence of transformations. Which could be the transformation or sequence of transformations? Select all that apply.



A translation of 3 units to the right, followed by a reflection across the x-axis.

A rotation of 180° about the origin.

A translation of 12 units downward, followed by a reflection across the x-axis.

A reflection across the line with equation y=x.