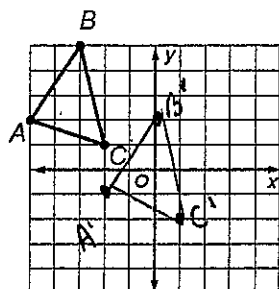


Name Key
Mrs. Roumbos

Date _____
8R Period _____

Classwork Day 3

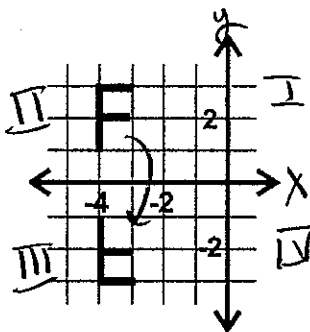
1. Triangle ABC is translated 3 units right and 3 units down. What are the coordinates of A' ?



$A'(-2, -1)$

**Steps: Slide the triangle the # of spaces + the direction given in the question. * Don't forget the primes

2. The figures below are transformations of one another? How was the F in quadrant II transformed to make the F in quadrant III?



Reflection over the x-axis (horizontal axis)

**Steps: Reflection: Face opposite directions
Same shape + size
Horizontal \longleftrightarrow Vertical \updownarrow

3. What are the coordinates of B' , the image of $B(0, 4)$ after a dilation with a scale factor of 6?

multiply
 \downarrow

$$B(0, 4) \xrightarrow{D_6} B'(0, 24)$$

**Steps: Multiply the coordinates by the scale factor.

4. What is the image of $(6, -4)$ under a dilation of 3?

multiply
 \downarrow

$$(6, -4) \xrightarrow{D_3} (18, -12)$$

**Steps: Multiply the coordinates by the scale factor.

5. Under what type of transformation can the image be a different size than the original figure?

Dilation

**Steps: Dilations are always different sizes

6. Point A has coordinates $(6, 2)$. After a dilation, the coordinates of point A' are $(18, 6)$. What is the scale factor for the dilation?

$$A(6, 2) \xrightarrow{D_3} A'(18, 6)$$

original image

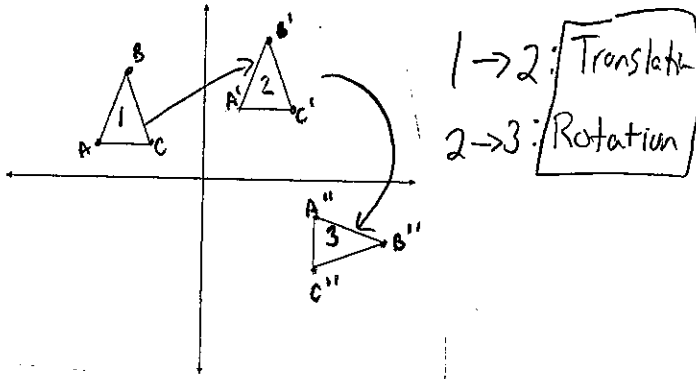
$$\frac{18}{6} = 3$$

$$\frac{6}{2} = 3$$

Scale factor = 3

**Steps: Find the # that you multiply the original coordinates by to get the image

7. Which sequence of transformations is performed so that Figure 1 is congruent to figure 3?



8. What is the image of Point A(2,3) when rotated 180° about the origin?

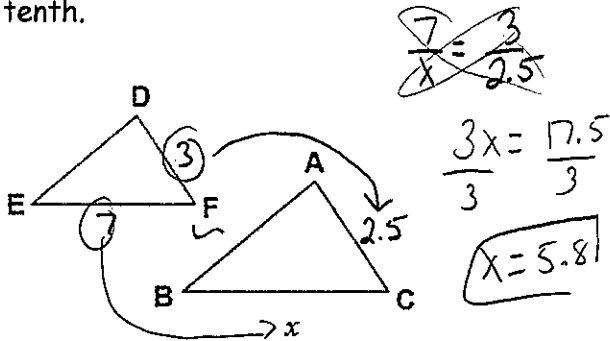
↓
same as reflection over the origin

$$A(2,3) \rightarrow A'(-2,-3)$$

**Steps: Translation: (slide) (same shape, same size, same direction) Rotation: (Turn) (same shape, same size, turned)

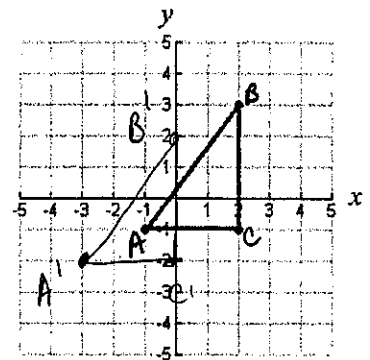
**Steps: Rule $(-x, -y)$ change the sign of BOTH the x + y - coordinates

9. Find the missing side length, x, to the nearest tenth.



10. If you translate the figure one unit down and two units left, what are the coordinates of the new image?

$$\begin{aligned} A'(-3, -2) \\ B'(0, 2) \\ C'(0, -2) \end{aligned}$$

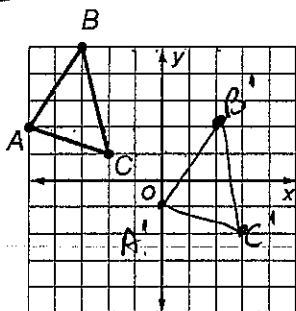


**Steps: Set up a proportion using corresponding sides. Cross multiply, solve + round to the nearest tenth

**Steps: slide the figure the # of spaces + the directions given in the question. * Don't forget the primes.

Now you try!!!

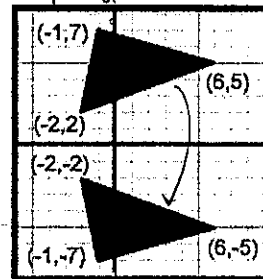
11. Triangle ABC is translated 5 units right and 3 units down. What are the coordinates of A'?



$$A'(4, -1)$$

- slide the figure 5 →
+ 3 ↓
- don't forget the primes

12. The figures below are transformations of one another? How was the top triangle transformed to produce the bottom?



Reflection over the x-axis
(horizontal axis)

* same shape + size
opposite direction

13. What are the coordinates of B', the image of B(0, 9) after a dilation with a scale factor of 3?

$B(0, 9) \rightarrow B'(0, 27)$

14. What is the image of $(4, -3)$ under a dilation of 5?

$(4, -3) \xrightarrow{D_5} (20, -15)$

15. A teacher wants to make paper stars for her students. She wants them to all be the same size. She traces around a pattern for the star several times on a sheet of paper. What transformation should she NOT use to make the stars?

Dilation

* Dilations are always different sizes

16. Point A has coordinates (3, 5). After a dilation, the coordinates of point A' are (21, 35). What is the scale factor for the dilation?

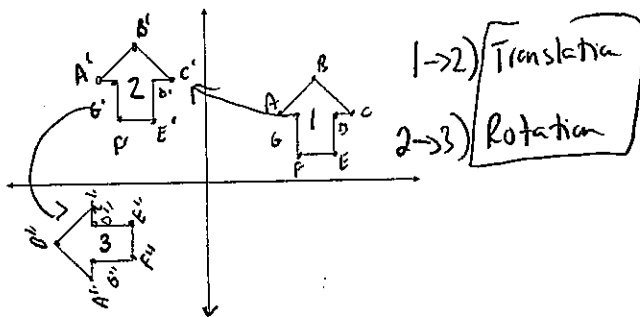
$A(3, 5) \xrightarrow{D_7} A'(21, 35)$

original image

$\frac{21}{3} = 7$
 $\frac{35}{5} = 7$

Scale factor = 7

17. Which sequence of transformations is performed so that Figure 1 is congruent to figure 3?



Translation = slide
Rotation = turn

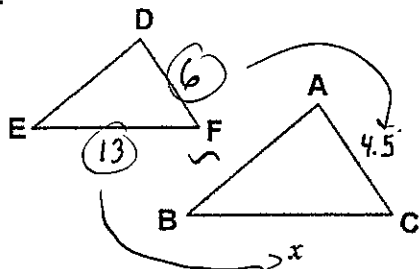
18. What is the image of Point A(-6, 4) when rotated 180° about the origin?

same as reflection over the origin

$A(-6, 4) \rightarrow A'(6, -4)$

* Change the sign of both the #'s
* Rule $(-x, -y)$

19. Find the missing side length, x, to the nearest tenth.

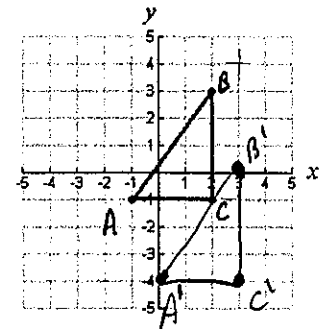


~~$\frac{13}{x} = \frac{6}{4.5}$~~
 $\frac{6x}{6} = \frac{58.5}{6}$
 $x = 9.8$

* Set up a proportion using corresponding sides
Cross-multiply + solve
Round to the nearest tenth

20. If you translate the figure three units down and one unit right, what are the coordinates of the new image?

$A'(0, -4)$
 $B'(3, 0)$
 $C'(3, -4)$



* Slide the figure 3 down 1 right
* Don't forget the primes
