

Name: \_\_\_\_\_ Date: \_\_\_\_\_

**Multiple Choice:**

1. What type of transformation moves  $P(4, -5)$  to  $P'(4, 5)$ ?

Reflected over x axis

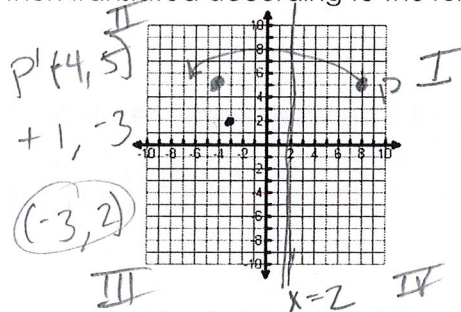
2. If the result of  $(x, y) \rightarrow (x + 2, y - 3)$  is  $A'(-3, 1)$ , what is the **pre-image**, or A? (This is backwards)

$-2 + 3$

$A(-5, 4)$

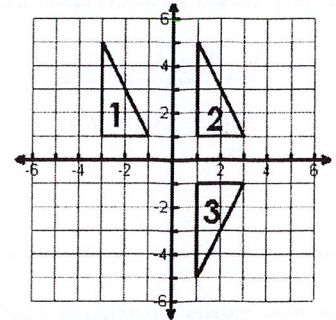
3. If  $P(8, 5)$  is reflected over the line  $x = 2$  and then translated according to the rule  $(x, y) \rightarrow (x + 1, y - 3)$ , what quadrant will  $P'$  be in?

Quadrant 2



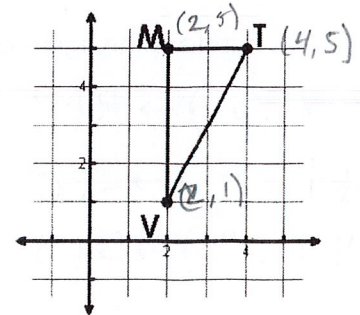
4. Triangle 1 is transformed as shown in the diagram, resulting in Triangle 2. Triangle 2 is transformed to create Triangle 3. Describe the combination of transformations

- A. Dilation, then Reflection
- B. Rotation, then Translation
- C. Reflection then Translation
- D. Translation, then Reflection



5. If  $\triangle MTV$  is reflected across the **x-axis**, what is the resulting coordinates of  $M'$ ,  $T'$ ,  $V'$ ?

$M'(2, -5)$   
 $T'(4, -5)$   
 $V'(2, -1)$



6. What type of transformation results in a figure that is an enlargement or reduction of the original one?

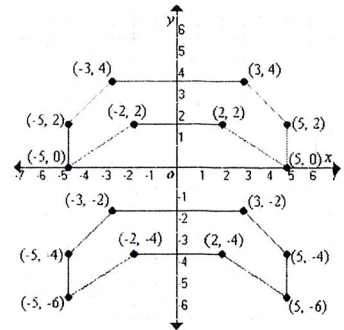
Dilation

7. A figure is transformed according to the rule  $(x, y) \rightarrow (x + 1, y - 4)$ . Describe the transformation has taken place?

Slide R+ 1 place  
slide Down 4 places

8. The top shape (pre-image) has been translated to the bottom shape (image). The translation rule is:

$(x, y) \rightarrow (x, y - 6)$   
OR  
Slides down 6



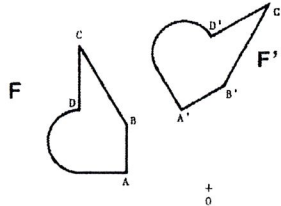
9. Given A (-2, 5), if A is transformed by the rule  $(x, y) \rightarrow (x + 2, y - 5)$  and then reflected over the y-axis, what is A''?

$A' (0, 0)$

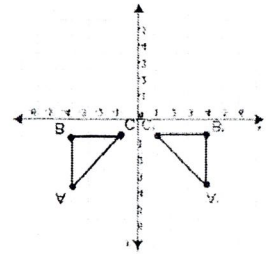
A reflection in y would leave it at (0,0) b/c it's on the line of reflection

Identify each motion as a translation, reflection or rotation.

10. Rotation  
about O.



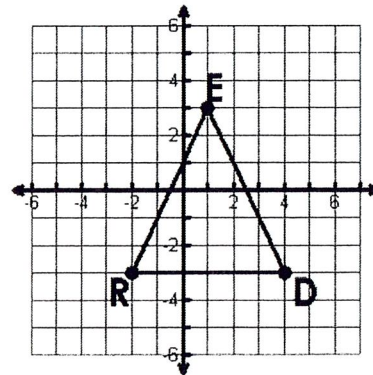
11. Reflection  
in y axis



Perform the given transformations.

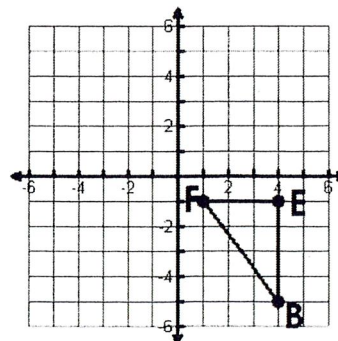
12. Translate the figure by  $(x - 1, y + 2)$

$R(-2, 3) \rightarrow R'(-3, -1)$   
 $E(1, 3) \rightarrow E'(0, 5)$   
 $D(4, -3) \rightarrow D'(3, -1)$



13. Reflect the figure over the line  $y = x$ .

$F(1, -1) \rightarrow F'(-1, 1)$   
 $E(4, -1) \rightarrow E'(-1, 4)$   
 $B(4, -5) \rightarrow B'(-5, 4)$

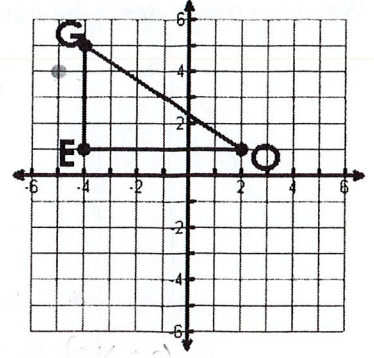


$(x, y) \rightarrow (y, x)$

$$(x, y) \rightarrow (-y, -x) \quad (x, y) \Rightarrow (y, x)$$

14. Reflect over  $y = -x$ , then rotate  $90^\circ$  CCW around the origin.

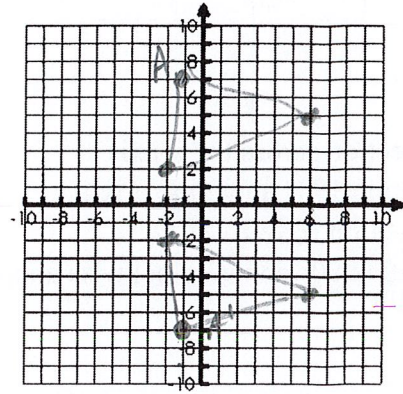
$$\begin{aligned} G(-4, 5) &\rightarrow G'(-5, 4) \rightarrow G''(-4, -5) \\ E(-4, 1) &\rightarrow E'(-1, 4) \rightarrow E''(-4, -1) \\ O(2, 1) &\rightarrow O'(-1, -2) \rightarrow O''(2, -1) \end{aligned}$$



Triangle  $A(-1, 7)$ ,  $N(-2, 2)$ ,  $G(6, 5)$  maps to  $A'(-1, -7)$ ,  $N'(-2, -2)$ ,  $G'(6, -5)$ .

15. What transformation has taken place?

Reflect in  $x$  axis



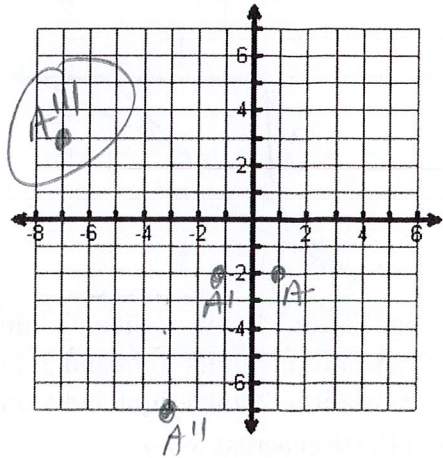
Use point  $A(1, -2)$  for three composite transformations. The first is a reflection of point  $A$  over the  $y$ -axis. Then, it is translated left 2 units and down 5 units. Finally, the point is rotated  $90^\circ$  clockwise.

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

16. List the coordinates after every transformation:

$$A(1, -2) \rightarrow A'(-1, -2) \rightarrow A''(-3, -7) \rightarrow A'''(-7, 3)$$

*-2 -5*



17. Graph the 4 points on the given graph. Don't forget to label.

18. Describe the rotational and line symmetry of the following figures



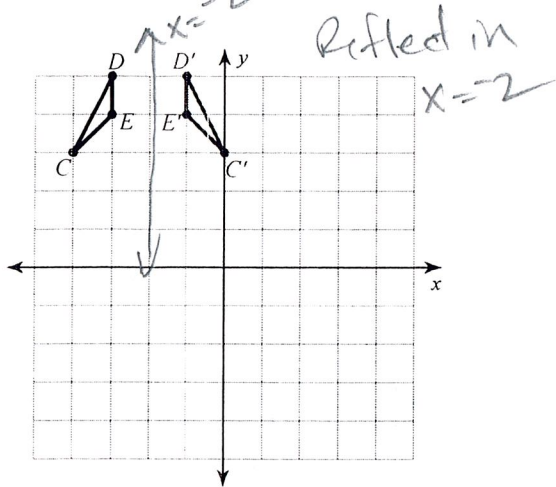
WONT BE ON TEST



Unit 1 review (continued)

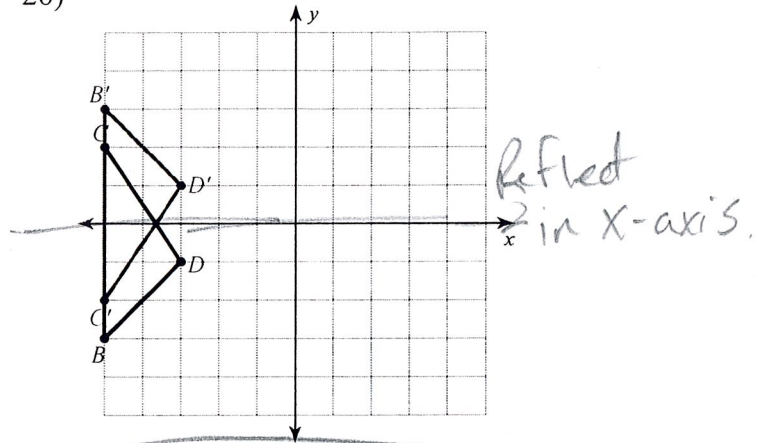
Write a rule to describe each transformation.

25)



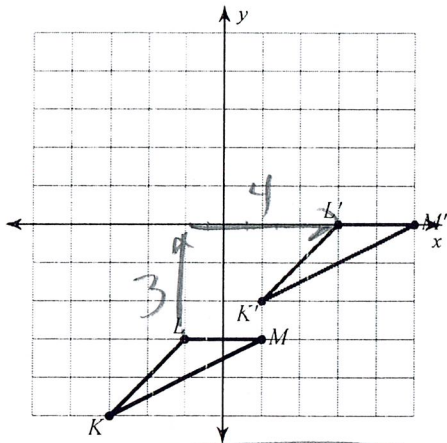
- A) reflection across the x-axis
- B) rotation  $180^\circ$  about the origin
- C) reflection across  $x = -2$
- D) rotation  $90^\circ$  counterclockwise about the origin

26)



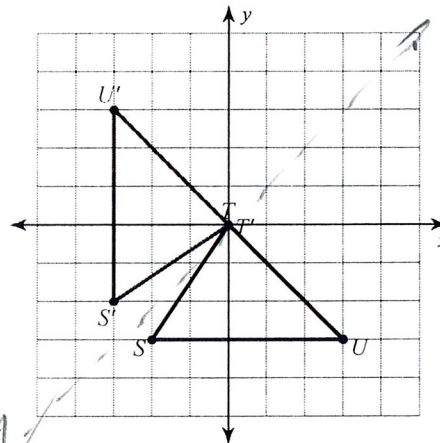
- A) reflection across the x-axis
- B) rotation  $180^\circ$  about the origin
- C) translation: 8 units right
- D) reflection across  $y = -x$

27)



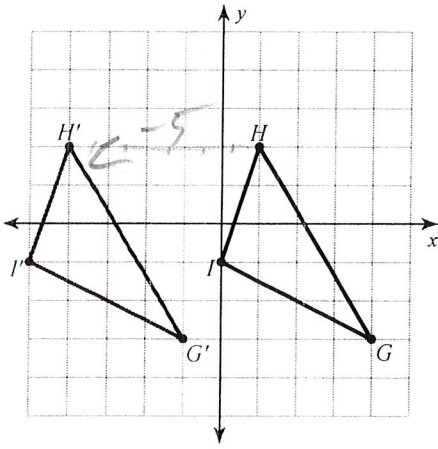
- A) translation: 4 units right and 3 units up
- B) translation: 2 units right and 5 units up
- C) translation: 2 units right and 8 units up
- D) reflection across  $x = 1$

28)



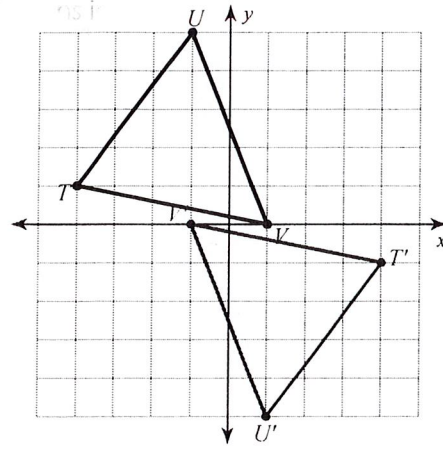
- A) reflection across  $y = -2$
- B) rotation  $90^\circ$  counterclockwise about the origin
- C) rotation  $180^\circ$  about the origin
- D) reflection across  $y = x$

29)



- A) translation: 4 units left and 1 unit up
- B) translation: 5 units left
- C) translation: 2 units left and 3 units up
- D) reflection across  $y = -x$

30)



- A) reflection across the y-axis
- B) reflection across  $x = -2$
- C) reflection across  $y = x$
- D) rotation  $180^\circ$  about the origin

