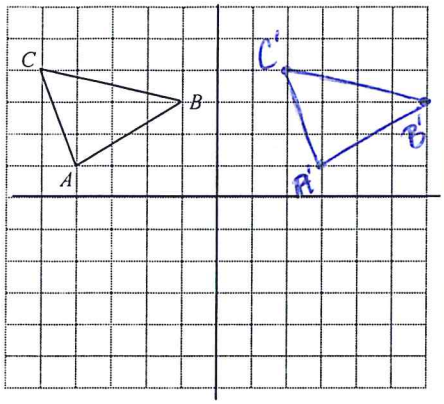
Final Exam Review
Geometry Semester 1

Name: Key

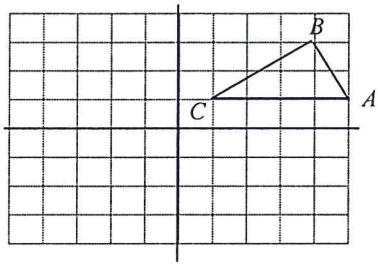
Applying Transformations- Final review part 2

1. Transform the triangle from (x,y) to $(x+7, y)$



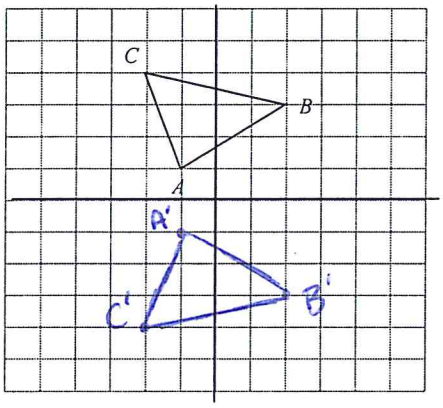
Describe the transformation in words:
TRANSLATE RIGHT 7 UNITS

2. If triangle ABC is rotated 180° about the origin which of the following are the coordinates of B'.



A (4,–3) **B** (–4,–3) **C** (–3,–4) **D** (3,–4)

3. Reflect the triangle across the x-axis.
Write the rule: (x,y) to (x , -y)



4. Describe in words the result of applying each rule.
a) (x,y) to $(x-3, y)$ TRANSLATE LEFT 3 UNITS
b) (x,y) to $(x+1, y-2)$ TRANSLATE RIGHT 1 UNIT AND DOWN 2 UNITS
c) (x,y) to $(-x,-y)$ ROTATE 180° ABOUT THE ORIGIN

5. Write the rule for each description.
a) translate 4 units up $(x,y) \rightarrow (x, y+4)$
b) reflect over y-axis $(x,y) \rightarrow (-x, y)$
c) translate 2 units left $(x,y) \rightarrow (x-2, y)$

6. The vertices of ΔABC are $A(3,-1)$, $B(3,4)$, and $C(0,1)$. If ΔABC is translated 2 units down and 3 units to the right to create ΔDEF, what are the coordinates of the vertices of ΔDEF.

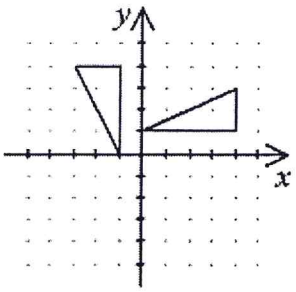
A $D(6,-3)$ $E(6,2)$ $F(3,-1)$ ★
B $D(1,2)$ $E(1,7)$ $F(-2,4)$
C $D(6,-4)$ $E(6,1)$ $F(3,0)$
D $D(5,-3)$ $E(5,2)$ $F(2,-1)$

7. Which expression describes the translation of a point from (5, –2) to (8,–6)?

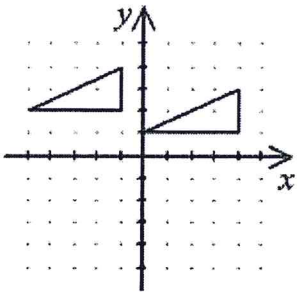
A 3 units left and 4 units up
B 3 units right and 4 units up
C 3 units left and 4 units down
D 3 units right and 4 units down

8. Which graph shows a triangle and its reflection image ~~in~~ OVER the y-axis?

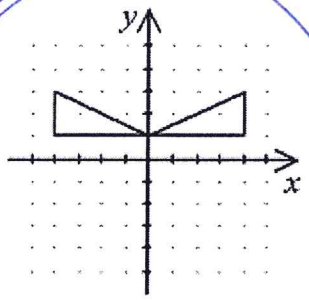
[A]



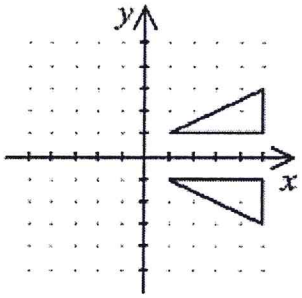
[B]



[C]

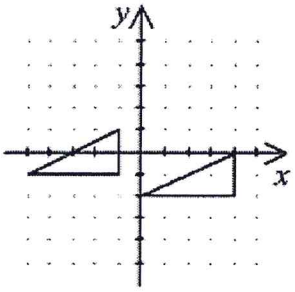


[D]

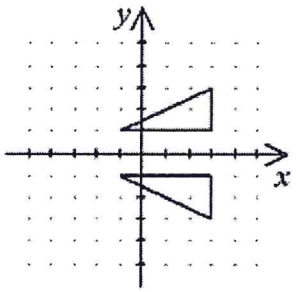


9. Which graph shows a triangle and its rotation image about the origin?

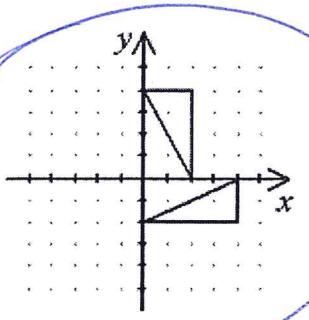
[A]



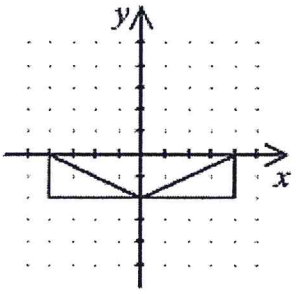
[B]



[C]

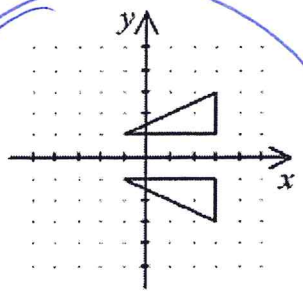


[D]

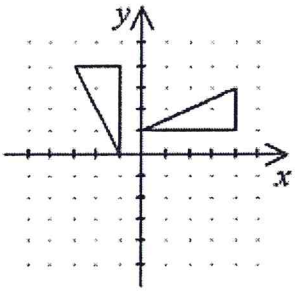


10. Which graph shows a triangle and its reflection image over the x-axis?

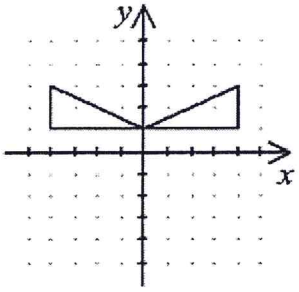
[A]



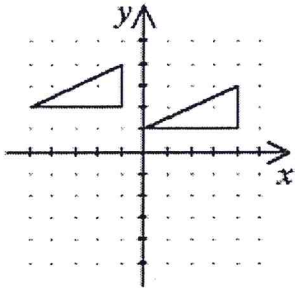
[B]



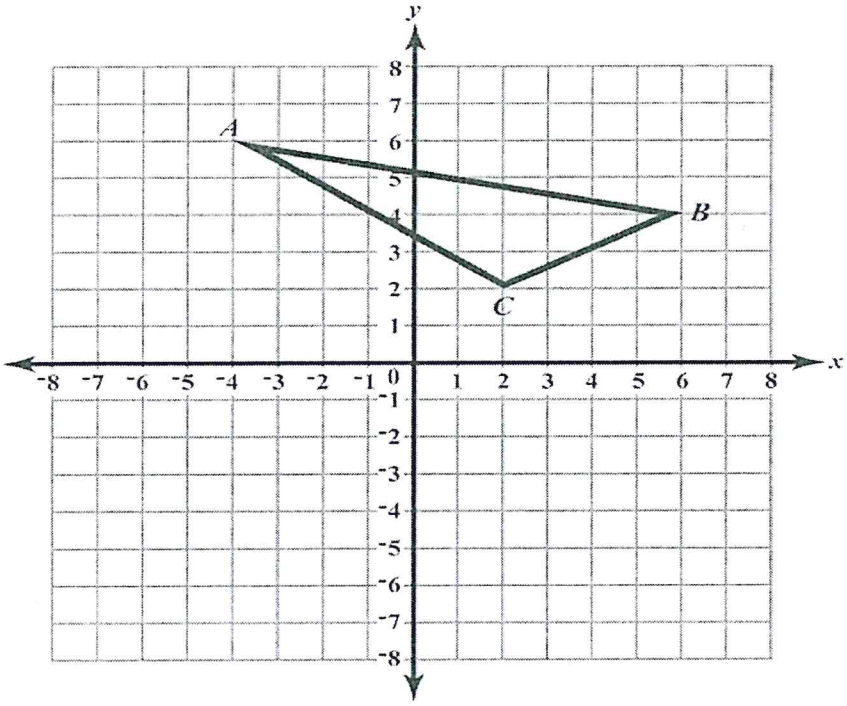
[C]



[D]



11. Show the image of the vertex marked A, in the triangle below after a rotation of 180 degrees about the origin.



[A] (-4, 6) [B] (4, -6) [C] (6, 4) [D] (4, 6)

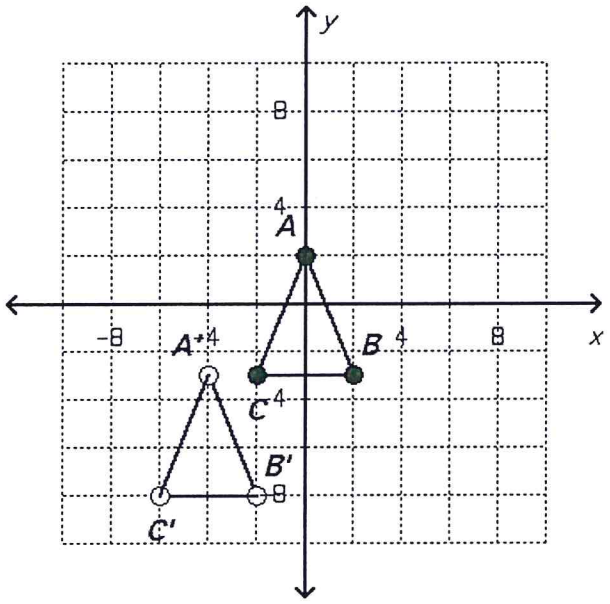
12. Point A (1, 4) is reflected over the y-axis. Write the coordinates of A'.

[A] (–1, 4) [B] (–1, –4) [C] (1, –4) [D] (1, 4)

13. Point A (6, –3) is reflected over the x-axis. Write the coordinates of A'.

[A] (–6, –3) [B] (6, –3) [C] (6, 3) [D] (–6, 3)

14. Write a rule to describe the translation of ΔABC to $\Delta A'B'C'$.



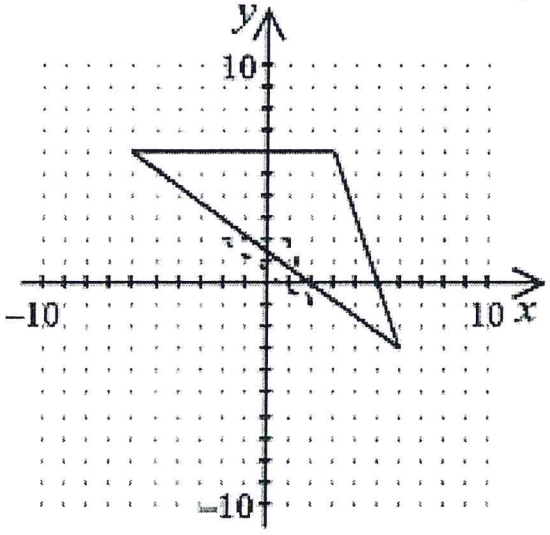
[A] four units left and three units down

[B] four units left and five units down

[C] five units right and four units up

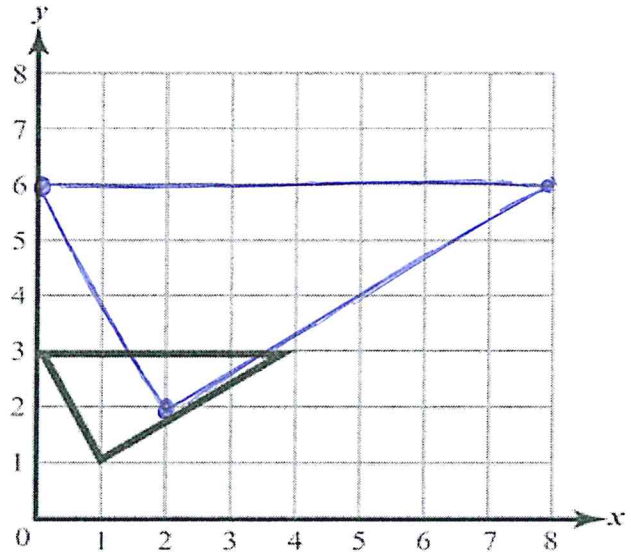
[D] four units right and three units up

15. The dotted triangle is a dilation image of the solid triangle. What is the scale factor?



[A] 2 [B] 3 [C] $\frac{1}{3}$ [D] $\frac{1}{2}$

16. Draw the image of the following triangle when it is dilated about the origin by a factor of 2. What are the coordinates of the vertices of the image?



[A] (2, 2) (0, 6) (6, 0) (8, 8)

[B] (2, 2) (6, 6) (8, 6)

[C] (2, 2) (0, 6) (6, 0) (8, 6)

[D] (2, 2) (6, 6) (8, 8)