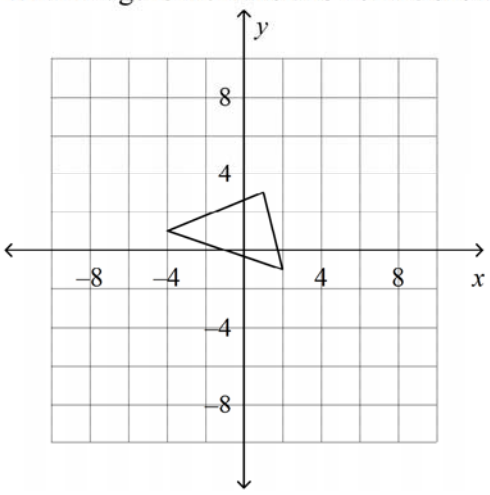
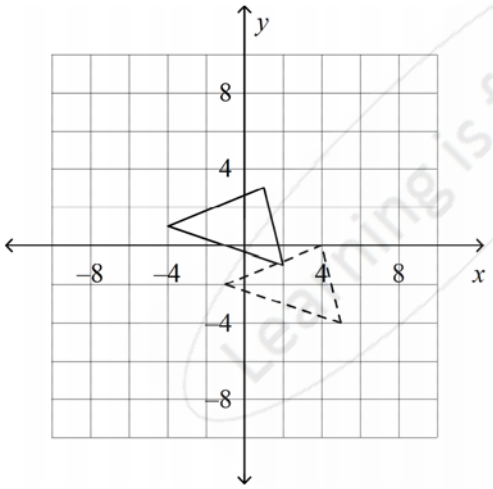
Name: _____ **Class:** _____ **Date:** _____ **ID: A**

Vectors

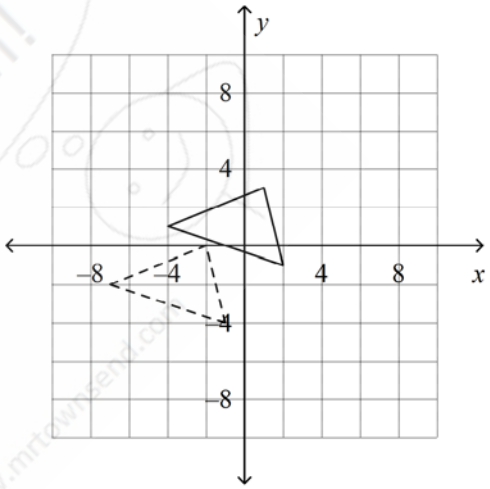
____ 1. What image is the translation of the shown triangle given by the translation rule $(x, y) \rightarrow (x - 3, y + 3)$?



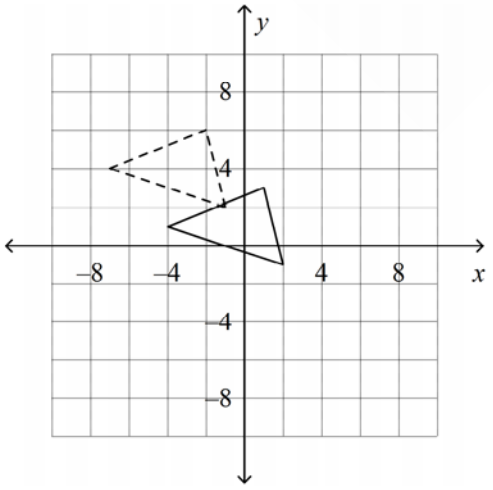
A.



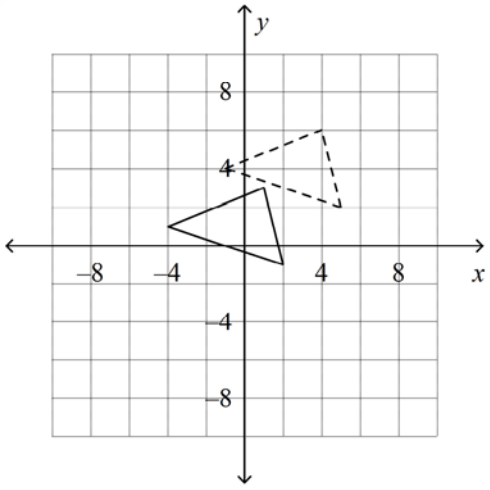
C.



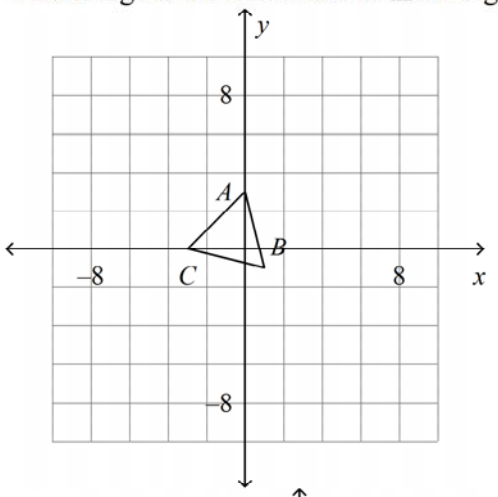
B.



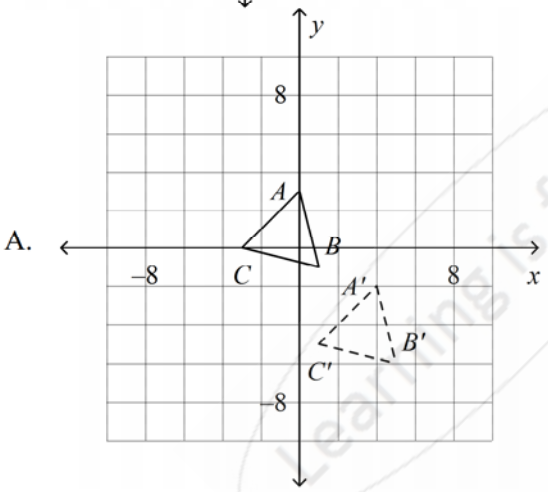
D.



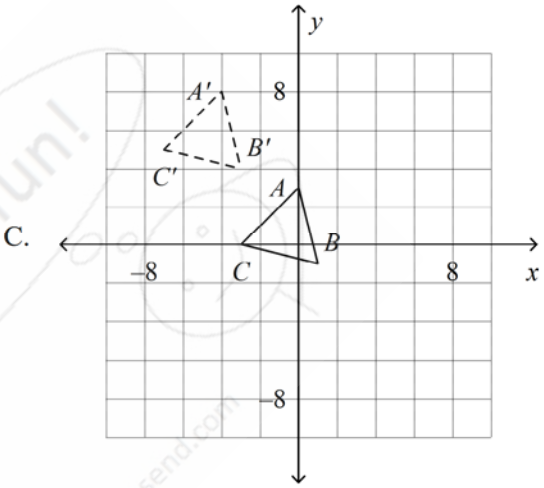
____ 2. What image is the translation of $\triangle ABC$ given by the translation rule $(x, y) \rightarrow (x - 4, y + 5)$?



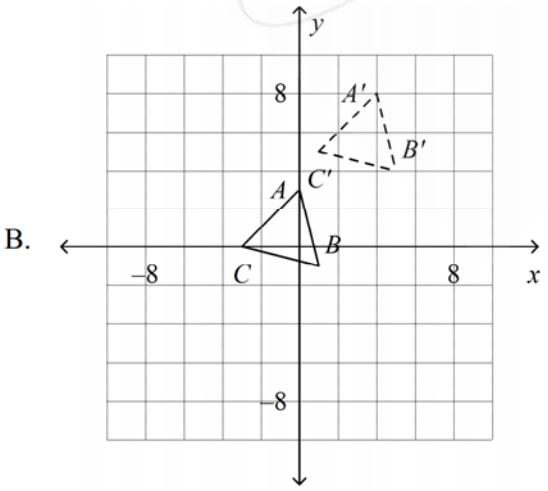
A.



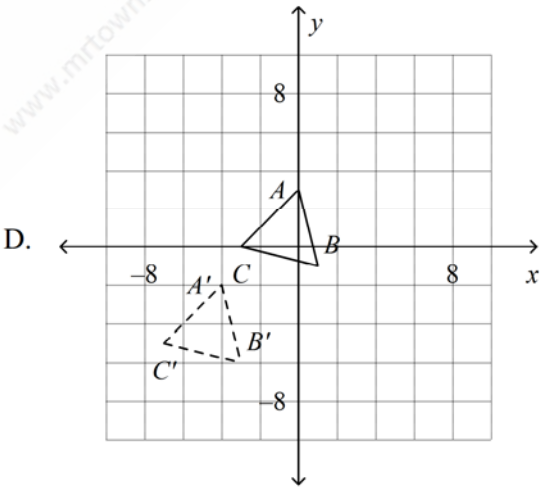
C.



B.



D.



____ 3. The vertices of a rectangle are $R(-5, -5)$, $S(-1, -5)$, $T(-1, 1)$, and $U(-5, 1)$. After translation, R' is the point $(0, -12)$. Find the translation rule and coordinates of U'.

A. $(x, y) \rightarrow (x + 5, y - 7)$; $(0, -6)$
B. $(x, y) \rightarrow (x + 5, y + 7)$; $(0, 8)$
C. $(x, y) \rightarrow (x - 5, y + 7)$; $(-10, 8)$
D. $(x, y) \rightarrow (x - 5, y - 7)$; $(-10, -6)$

____ 4. Describe in words the translation represented by the translation rule $(x, y) \rightarrow (x - 4, y + 1)$.

A. 4 units to the right and 1 units up
B. 1 units to the left and 4 units up
C. 4 units to the left and 1 units up
D. 4 units to the right and 1 units down

____ 5. Use a translation rule to describe the translation that is 6 units to the left and 10 units up.

A. $(x, y) \rightarrow (x - 6, y - 10)$
B. $(x, y) \rightarrow (x + 6, y + 10)$
C. $(x, y) \rightarrow (x - 6, y + 10)$
D. $(x, y) \rightarrow (x + 6, y - 10)$

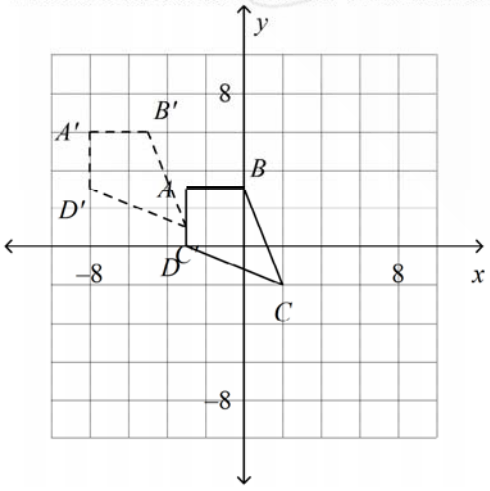
____ 6. Gina was sitting in seat I4 at a soccer game when she discovered her ticket was for seat G1. Write a rule to describe the translation needed to put her in the proper seat.

A. $(x,y) \rightarrow (x - 2, y + 3)$
B. $(x,y) \rightarrow (x + 2, y - 3)$
C. $(x,y) \rightarrow (x - 2, y - 3)$
D. $(x,y) \rightarrow (x + 2, y + 3)$

____ 7. Use a translation rule to describe the translation that is 3 units to the left and 4 units down.

A. $(x,y) \rightarrow (x - 3, y + 4)$
B. $(x,y) \rightarrow (x + 3, y - 4)$
C. $(x,y) \rightarrow (x - 3, y - 4)$
D. $(x,y) \rightarrow (x + 3, y + 4)$

____ 8. What is a rule that describes the translation $ABCD \rightarrow A'B'C'D'$?



A. $(x,y) \rightarrow (x - 5, y + 3)$
B. $(x,y) \rightarrow (x + 5, y - 3)$
C. $(x,y) \rightarrow (x - 3, y + 5)$
D. $(x,y) \rightarrow (x + 5, y + 3)$

____ 9. Use a translation rule to describe the translation that is 9 units to the right and 7 units down.

A. $(x,y) \rightarrow (x-9,y+7)$
C. $(x,y) \rightarrow (x-9,y-7)$
B. $(x,y) \rightarrow (x+9,y+7)$
D. $(x,y) \rightarrow (x+9,y-7)$

____ 10. What translation rule can be used to describe the result of the composition of $(x,y) \rightarrow (x-8,\ y-1)$ and $(x,y) \rightarrow (x+2,\ y+7)$?

A. $(x,y) \rightarrow (x+6,\ y+6)$
C. $(x,y) \rightarrow (x-6,\ y+6)$
B. $(x,y) \rightarrow (x-10,\ y-8)$
D. $(x,y) \rightarrow (x-6,\ y+6)$

____ 11. What translation rule can be used to describe the result of the composition of $T_{<1,-9>}(x,y)$ and $T_{<-6,4>}(x,y)$?

A. $T_{<-5,-5>}(x,y)$
C. $T_{<5,-5>}(x,y)$
B. $T_{<7,-13>}(x,y)$
D. $T_{<-5,-5>}(x,y)$

Vectors
Answer Section

1. B
2. C
3. A
4. C
5. C
6. C
7. C
8. A
9. D
10. D
11. D