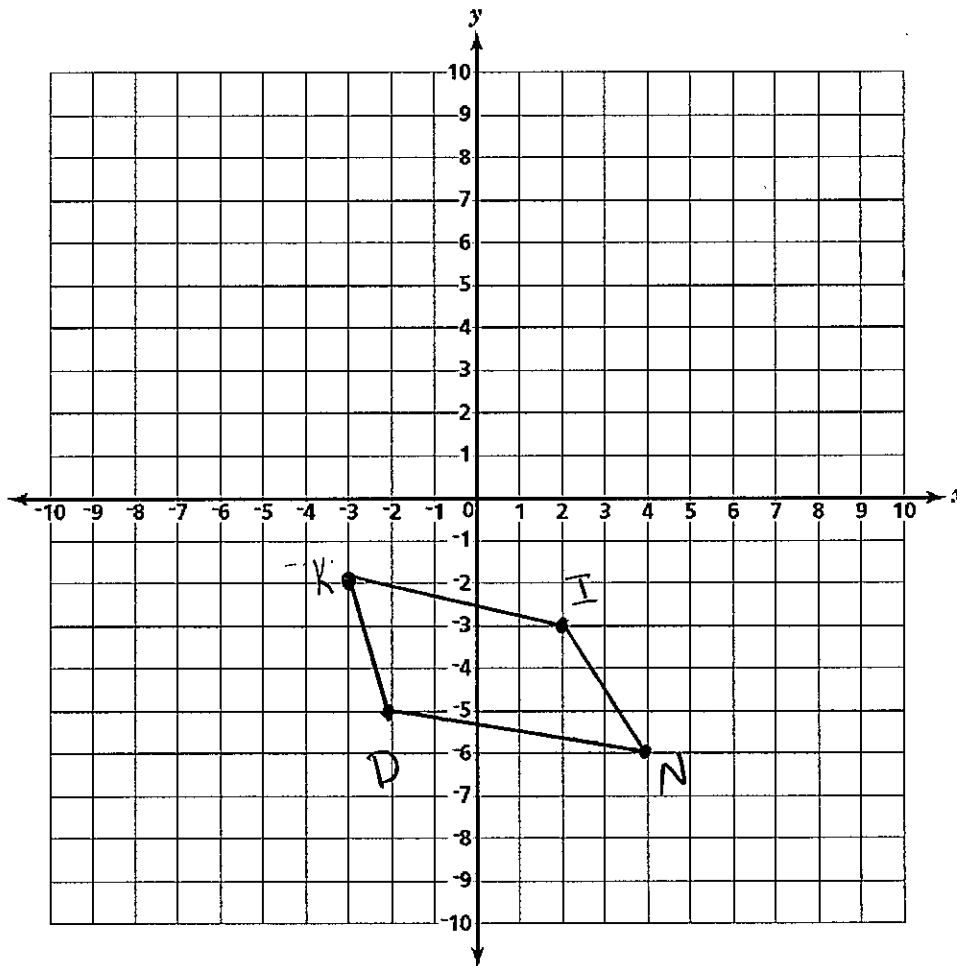


Translation Day II

1) Translate figure KIND two units to the right and three units up.



Find the coordinates of:

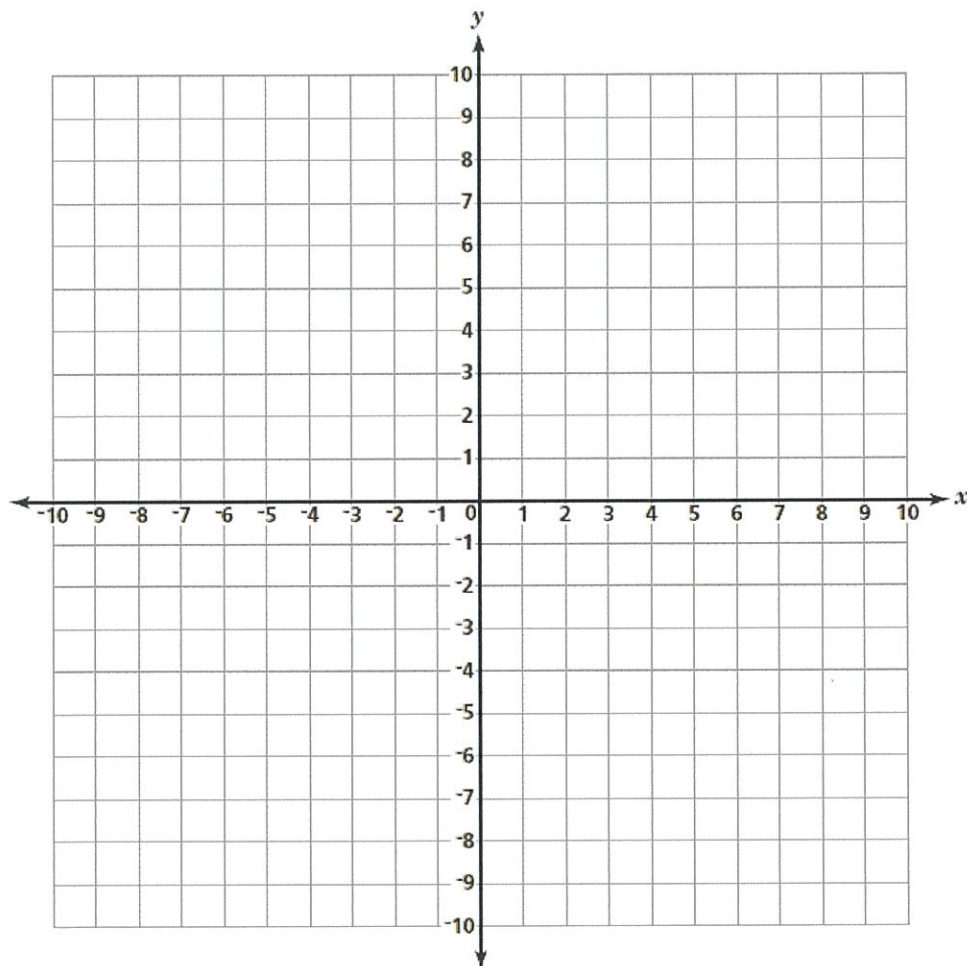
K' _____ I' _____ N' _____ D' _____

Explain how you determined the location of N':

TRANSLATIONS	
Type	Rule
Move right a units	Add a to each x -coordinate: $(x, y) \rightarrow (x + a, y)$
Move left a units	Subtract a from each x -coordinate: $(x, y) \rightarrow (x - a, y)$
Move up b units	Add b to each y -coordinate: $(x, y) \rightarrow (x, y + b)$
Move down b units	Subtract b from each y -coordinate: $(x, y) \rightarrow (x, y - b)$

2)

a) Graph $\triangle TAN$: $T(3, -2)$, $A(6, -4)$, $N(3, -6)$



b) Translate $\triangle TAN$ using $T_{(x-5, y+6)}$

3) Add the directions onto the coordinates to find the new point.

a) $A(5, 3)$ under $T_{(x+2, y-3)}$ becomes A' _____

b) $B(-6, 1)$ under $T_{(x+8, y+1)}$ becomes B' _____

4) Translations are noted by the letter T and then a set of directions.

$T_{(x+2, y+1)}$ can also be written as $T_{(2, 1)}$

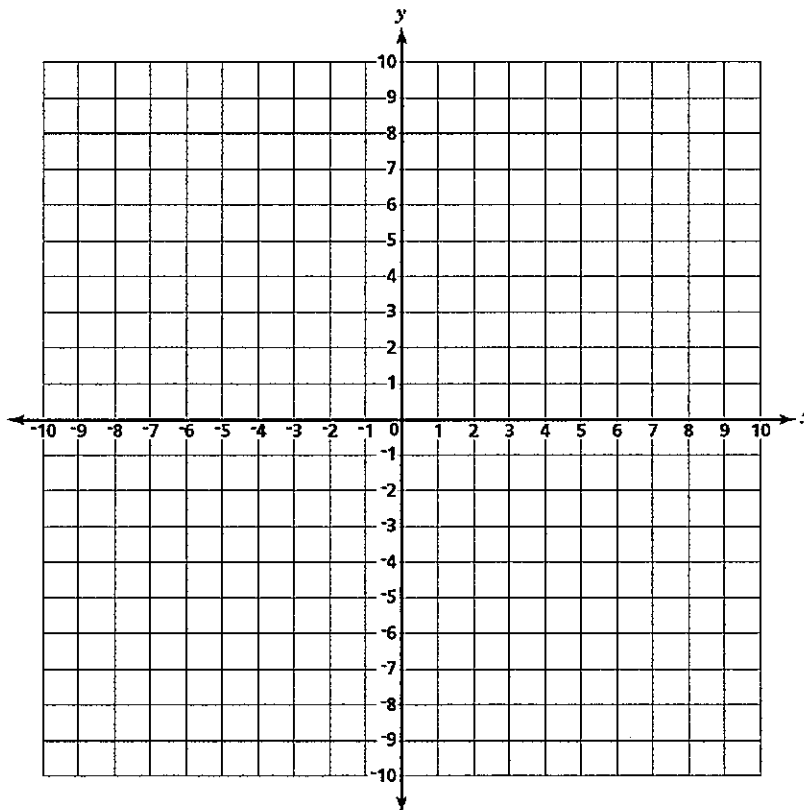
$T_{(x-3, y+5)}$ can also be written as $T_{(-3, 5)}$

$T_{(x-4, y-2)}$ can also be written as $T_{(-4, -2)}$

a) $C(2, 7)$ under $T_{(-2, -3)}$ becomes C' _____

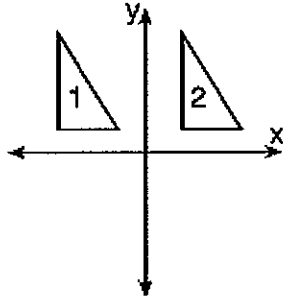
b) $D(-1, 3)$ under $T_{(3, -5)}$ becomes D' _____

5) a) Graph rectangle *CAKE*: $C(1, 3)$, $A(5, 3)$, $K(5, 7)$, $E(1, 7)$



b) Translate rectangle *CAKE* using $T_{(4, -6)}$

6) In the accompanying diagram, what type of transformation makes triangle 2 the image of triangle 1?



- A) reflection in the y-axis
- B) translation
- C) rotation centered at the origin
- D) dilation

7) What is the image of the point $(-3, -1)$ under the translation that shifts (x, y) to $(x - 2, y + 4)$?

- A) $(-5, 5)$
- B) $(-1, 3)$
- C) $(-1, -5)$
- D) $(-5, 3)$

8) If a translation maps point $A(-3, 1)$ to the point $A'(5, 5)$, the translation can be represented by

- A) $(x + 8, y + 4)$
- B) $(x + 2, y + 4)$
- C) $(x + 2, y + 6)$
- D) $(x + 8, y + 6)$

9) A translation maps $(1, 4)$ onto $(7, -3)$. Write the image of $(5, 10)$ under the same translation.

10) Given triangle ABC with coordinates $A(-1, -2)$, $B(0, -4)$, and $C(3, -1)$. Graph and label $\Delta A'B'C'$, the image of ΔABC after the translation $(x + 4, y - 3)$. Graph the original too.

