1.
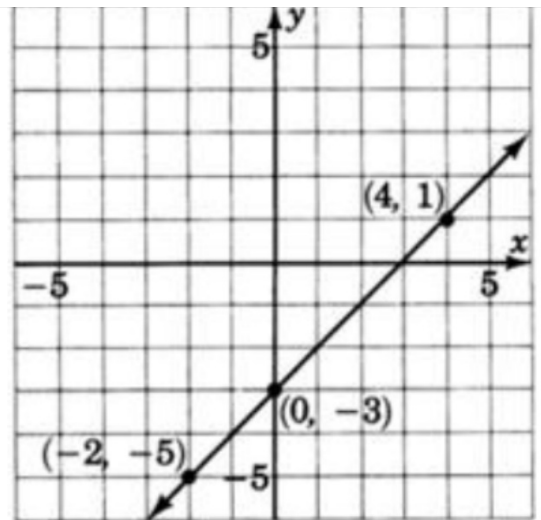
Ms. Shurig just bought a big-screen TV set. The screen is 48 inches wide and 27 inches high. Find the length of its diagonal.

2. What is the slope of the line graphed above?

3. What is the y-intercept of the line graphed above?

4. Write the slope-intercept equation of the line graphed above.

1.

Ms. Shurig just bought a big-screen TV set. The screen is 48 inches wide and 27 inches high. Find the length of its diagonal. (nearest inch)
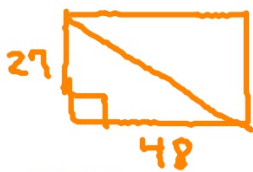
$$a^2 + b^2 = c^2$$
$$27^2 + 48^2 = c^2$$
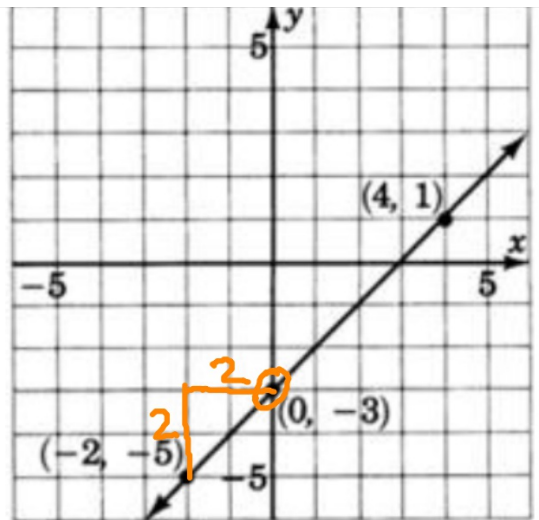$$729 + 2304 = c^2$$
$$3033 = c^2$$
$$\sqrt{3033} = \sqrt{c^2}$$
$$55.07 = c$$

27

48

55 inches

(4, 1)

(0, −3)

(−2, −5)

−5

5

5

2. What is the slope of the line graphed above?

$m = 1$

$$m = \frac{\Delta y}{\Delta x} = \frac{2}{2} = 1$$

3. What is the y-intercept of the line graphed above?

$(0, -3)$
$b = -3$

4. Write the slope-intercept equation of the line graphed above.

$$y = mx + b$$
$$y = 1x - 3$$
$$y = x - 3$$

Transformations

Vocabulary:

Transform: Changing a shape by turning, flipping, sliding, or resizing.

Rigid transformation: the pre-image and the image both have exactly the same size and shape since the measures of the corresponding angles and corresponding line segments remain equal (are congruent).

Congruent: same size, same shape ≅

Translations: "Sliding" a figure

Reflection: "flipping" of an object over a line, known as the "line of reflection".

Translations

To TRANSLATE, means to _slide_

To *translate* a figure on a coordinate plane, you _slide_ the figure in the direction given in each problem.

1) Choose one point on the original figure and slide it in the direction(s) given.
2) This new point will be labeled with (') after each new letter. This symbol is called __prime__, which lets you know this figure is the new image.
3) Slide the other original points in the exact same direction as the first point (making sure to label them with the prime (') mark, also).
4) Draw the lines to create the new image, which should be identical to the original (pre-image), just in a new place on the coordinate grid.
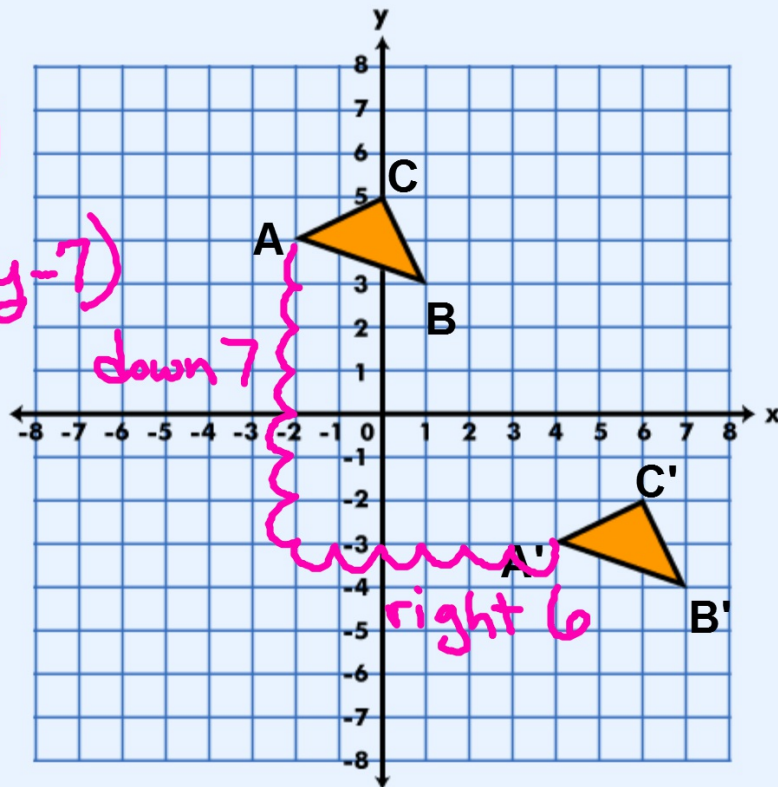
Identify the Pre-Image and the Image
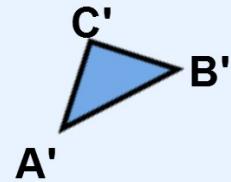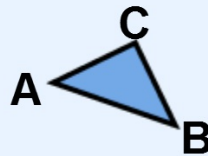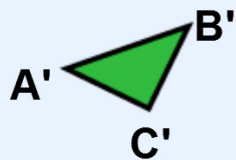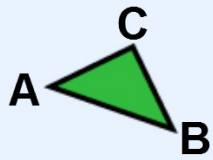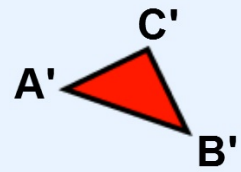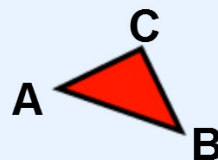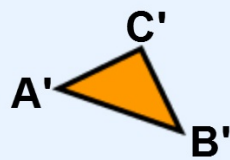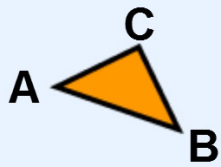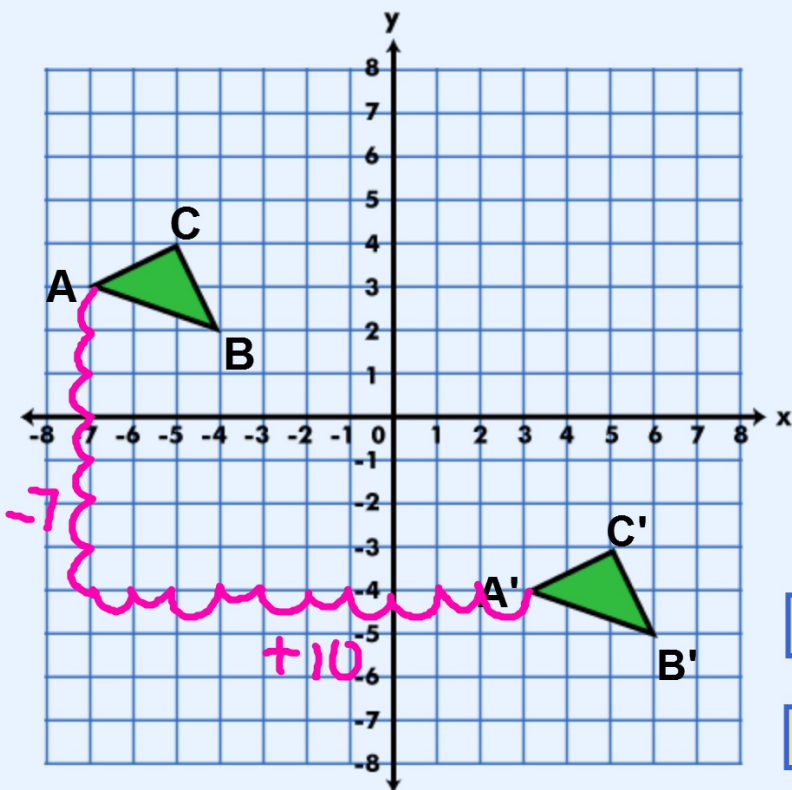

CLONE

Describe This Transformation

$A(x, y)$

$A'(x+6, y-7)$

down 7

right 6

Describe This Translation

ABC ⟶ A'B'C

| down | 7 |
| right | 10 |

left   up

1 2 3 4 5

6   8 9

⬆ CLONE

Describe This Translation
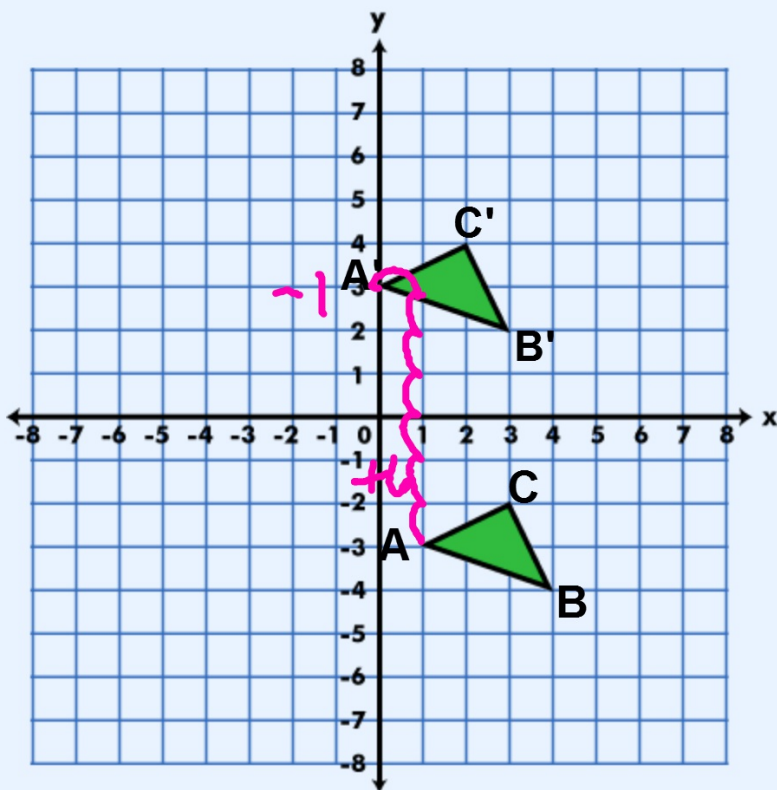
ABC ⟶ A'B'C

up	6
left	1

down

right

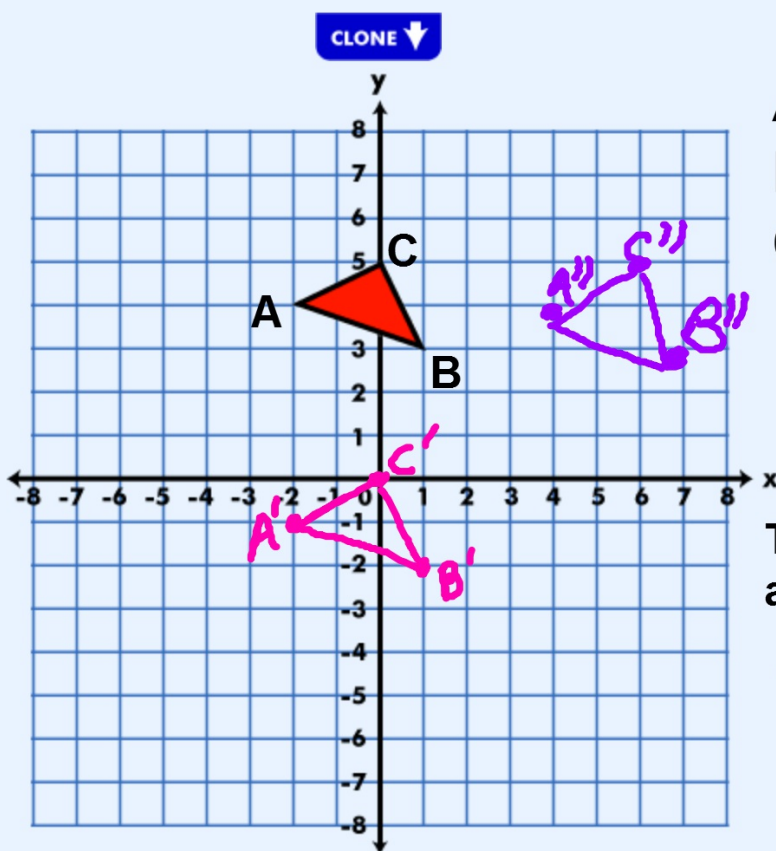| 2	3	4	5
7	8	9	10

CLONE

Translate ABC 5 units down and Label the image A'B'C'

CLONE

A(-2,4)   A'(-2, -1)
B(1,3)   B'(1, -2)
C(0,5)   C'(0, 0)

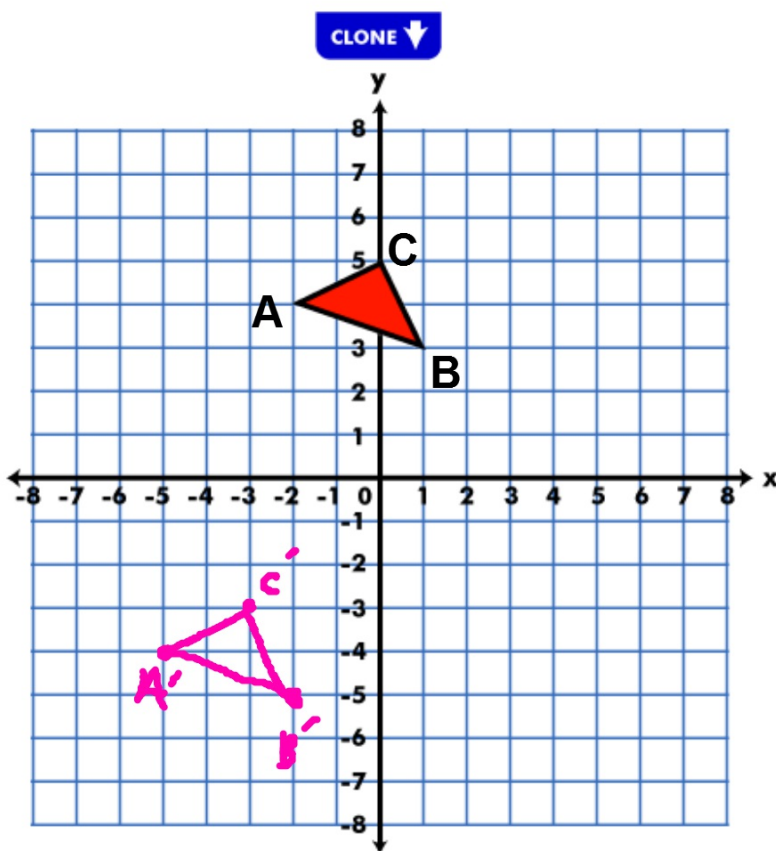A'   B'   C'

A"   B"   C"

DRAG

Translate ABC 6 units right
and label the image A"B"C"

A(-2,4)   A"(4, 4)
B(1,3)   B"(7, 3)
C(0,5)   C"(6, 5)

Translate ABC 3 units left and 8 units down

CLONE ▼

DRAG

Label the image A'B'C'

A'   B'   C'

A(-2,4)   A'(-5,-4)
 -3 -8

B(1,3)   B'(-2,-5)
 -3-8

C(0,5)   C'(-3,-3)
 -3-8

Write the ordered pair for each given translation
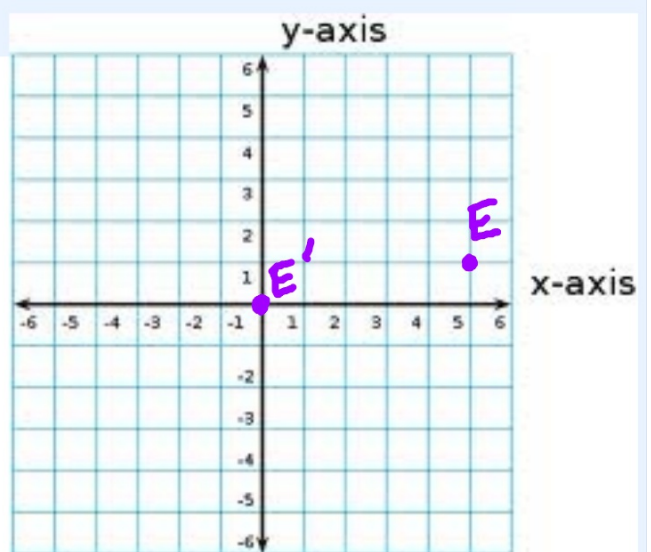
E (5,1)
5 units left, 1 unit down
-5 -1

E' (0 , 0)

F(2,-3)
6 units right, 10 units up
+6 +10

F' (8 , 7)

G(-5,4)
2 units right, 9 units down
+2 -9

G' (-3 , -5)

y-axis

x-axis

ANSWER

HW Translations Worksheet