REVIEW: *Transformations*

Coordinate Plane:
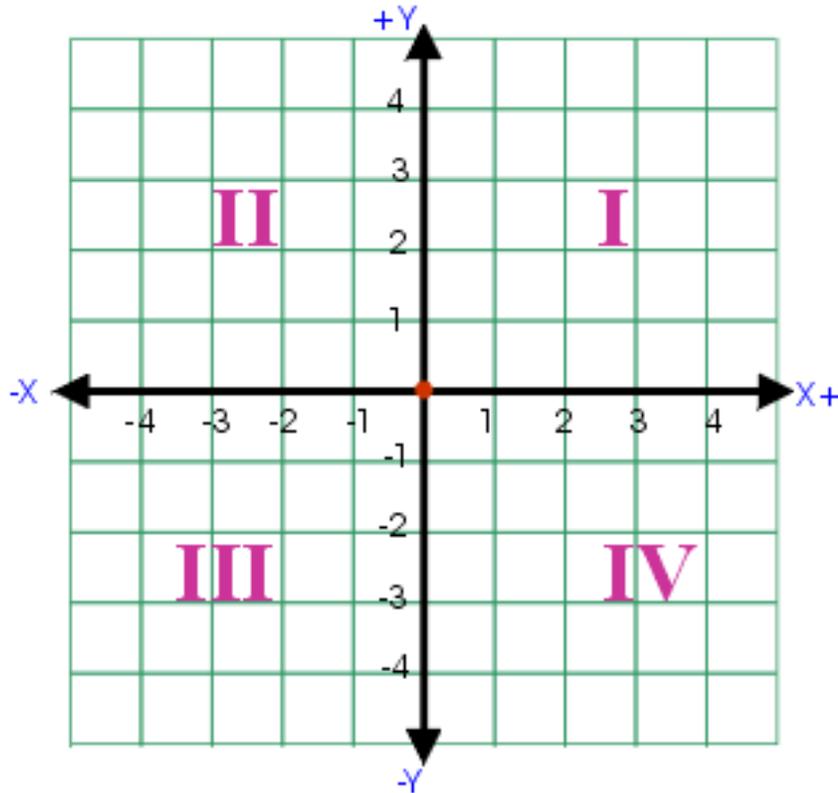
First,
move
LEFT
or
RIGHT

Next,
move
UP
or
DOWN

(x, y)
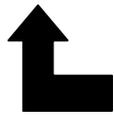
⭐ **Translations** *("a SLIDE")*

REMEMBER.....

For the ***X-coordinate***:

⭐ SLIDE to the **LEFT = NEGATIVE**
⭐ SLIDE to the **RIGHT = POSITIVE**

For the ***Y-coordinate:***

⭐ SLIDE **UP = POSITIVE**
⭐ SLIDE **DOWN = NEGATIVE**

Reflections *("a MIRROR image" or a "FLIP")*

To REFLECT a point over the X-AXIS:

1. Count the *number of spaces* that the **ORIGINAL POINT** is from the x-axis.

2. Draw the **NEW POINT** the *same number of spaces* away on *the other side of the x-axis.*

   or

   Use the RULE: *X-coordinate* **STAYS the SAME**
   Y-coordinate becomes the **OPPOSITE**

   A(2,-4) ⟶ A'(2, 4)

To REFLECT a point over the Y-AXIS:

1. Count the *number of spaces* that the **ORIGINAL POINT** is from the y-axis.

2. Draw the **NEW POINT** the *same number of spaces* away on *the other side of the y-axis*

   or

   Use the RULE: *X-coordinate* becomes the **OPPOSITE**
   Y-coordinate **STAYS the SAME**

   A(2,-4) ⟶ A'(-2, -4)

⭐ **Dilations**(*"image gets BIGGER or SMALLER"*)

> **To perform a DILATION:**
>
> *MULTIPLY* the *SCALE FACTOR* by *BOTH coordinates* in each ordered pair.

Remember......

> ⭐ If the ***SCALE FACTOR is a WHOLE NUMBER*** ➡ **BIGGER**
>
> ⭐ If the ***SCALE FACTOR is a FRACTION*** ➡ **SMALLER**

⭐ **Rotations** (*"a TURN"*)

> **To perform a ROTATION:**

⭐ 90° *FLIP (x, y)* + *make y OPPOSITE* ➡ **(x,y)** *becomes* **(-y, x)**

⭐ 180° *BOTH the X and Y* become *OPPOSITE* ➡ **(x,y)** *becomes* **(y,x)**

⭐ 270° *FLIP (x, y)* + *make x OPPOSITE* ➡ **(x,y)** *becomes* **(y, -x)**