Translation: If you decide to do multiple translation trials always start from the same initial location, write down the translation you plan to do, and then record the new coordinates.

Vertices →	A	B	C
Initial location	(2, 4)	(11, 4)	(2, 15)
Translation 1 ***3 right, 2 up***	(5, 6)	(9, 6)	(5, 17)
Translation 2 13, 41	(3, 8)	(12, 8)	(3, 9)
Translation 3 6 L, 12	(-4, -8)	(5, -8)	(-4, 3)
Rule			

When you move cordonates you add the amount you moved Positive to are right or up negative to the left & down

Rotation: If you decide to do multiple rotation trials you will need to select a new initial location for each trial. Record the coordinates for the initial location for each trial and the coordinates of the final location after the rotation. Be sure to rotate the same way, clockwise, for each trial.

Vertices →	A	B	C
Initial location 1	(1, 1)	(6, 1)	(1, 6)
90° Clockwise	(1, -1)	(1, -6)	(6, -1)
Initial location 2	(2, 1)	(5, 1)	(2, 6)
90° Clockwise	(1, -2)	(1, -5)	(6, -2)
Initial location 3	(4, 3)	(5, 1)	(3, 1)
90° Clockwise	(3, -4)	(1, -5)	(1, -3)
Rule			

When you rotate a 90° clockwise The x & Y cordonates change places & The Y cordonates is opposite

Student Sample A

Reflection: If you decide to do multiple reflections you will need to select a new initial location for each trial. Record the coordinates for initial location for each trial and the coordinates of the final location after the rotation.

Vertices →	A	B	C
Initial location 1	(2,3)	(6,3)	(2,5)
Reflection over y-axis	(-2,3)	(-6,3)	(-2,5)
Initial location 2	(3,6)	(1,6)	(2,4)
Reflection over y-axis	(-3,6)	(-1,6)	(-2,4)
Initial location 3	4,4	7,4	(4,9)
Reflection over y-axis	(-4,4)	(-7,4)	(-4,9)
Rule			

The cordonates on the X Axie change to a negative

Challenge Questions:

- What do you think would happen to the coordinates if your **reflection** were over the x-axis?

The cordonates on the Y axis change to a negative

- Would your **rotation** rule work if your initial location were in any other quadrant than the first quadrant? Why or why not?

No Because It rotates into a negative quadrant

Summary Questions:

1. Describe what changed for ΔABC during this activity.

It moved

2. Describe what stayed the same for ΔABC during this activity.

It was the same size when you moved it

3. Describe what you learned from this activity.

I learned How to Translate rotate Reflect on a cordonate Plane