Math 104 Online - Project #1

NAME: (Last, First) _____

Good Luck!!

1*.	(10)	_____
2.	(15)	_____
3.	(15)	_____
4*.	(20)	_____
5.	(20)	_____
6.	(20)	_____
Total	(100)	_____

For each problem, we will sketch the graph of functions using the Graphing Techniques learned in this section. For each function, state the basic function you are using, and show all the intermediate moves used to find the final graph. An example of this can be found on the first page.

With your final graph you should:

- Have the x and y axes label and scaled (numbers along the edges)

- Have the $y-$intercept labeled, if there is one

- Bonus points will be given for labeling any $x-$intercepts

- Bonus points will be given for color!

*Note: You do not need to start with the basic function in #1 and #4. It is sufficient to start with $y = 2x - 4$

Once you have the final graph sketched, state the range and domain of the function at the bottom of the page.
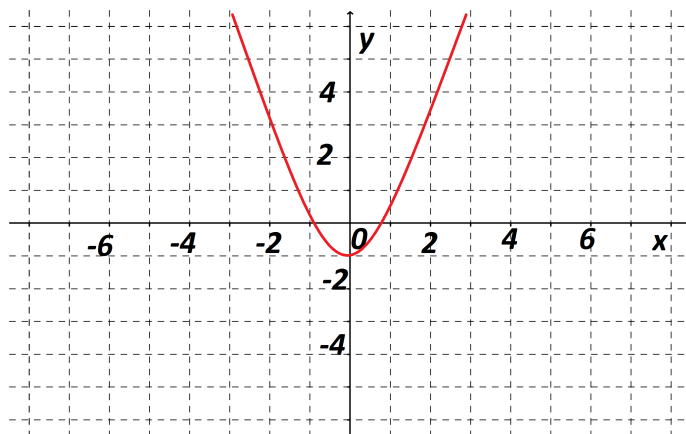
Example:

$$y = \left| x^2 - 1 \right| + 2$$
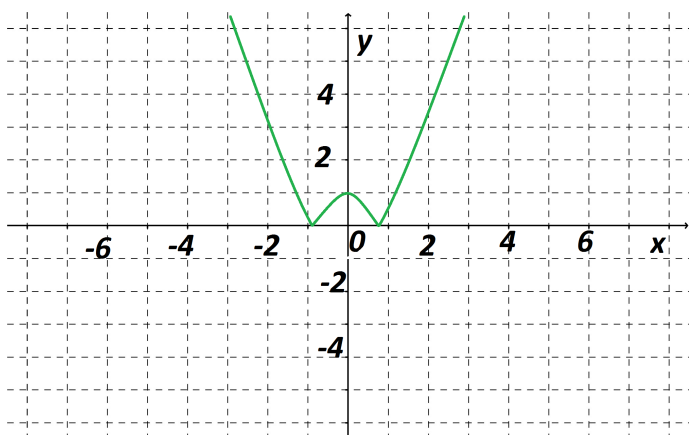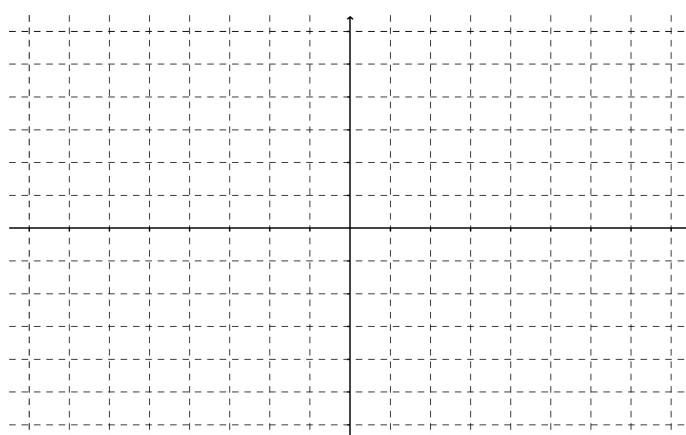
Basic Graph
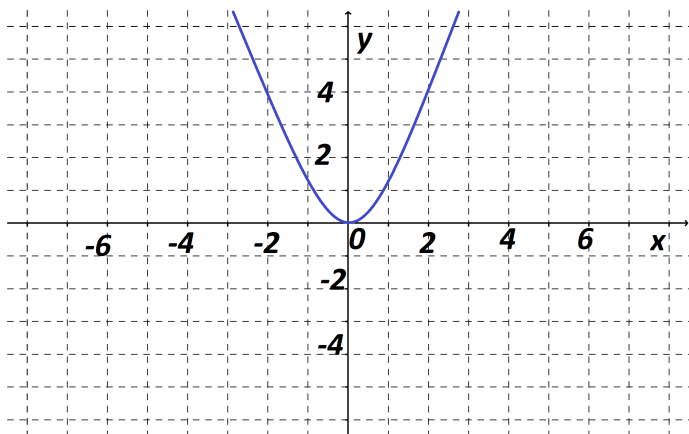
$y = \underline{x^2}$

1st move

$y = \underline{x^2 - 1}$

2nd move

$y = \underline{\left| x^2 - 1 \right|}$

3rd move

$y = \underline{\hspace{3cm}}$

Final Graph

(0,3)
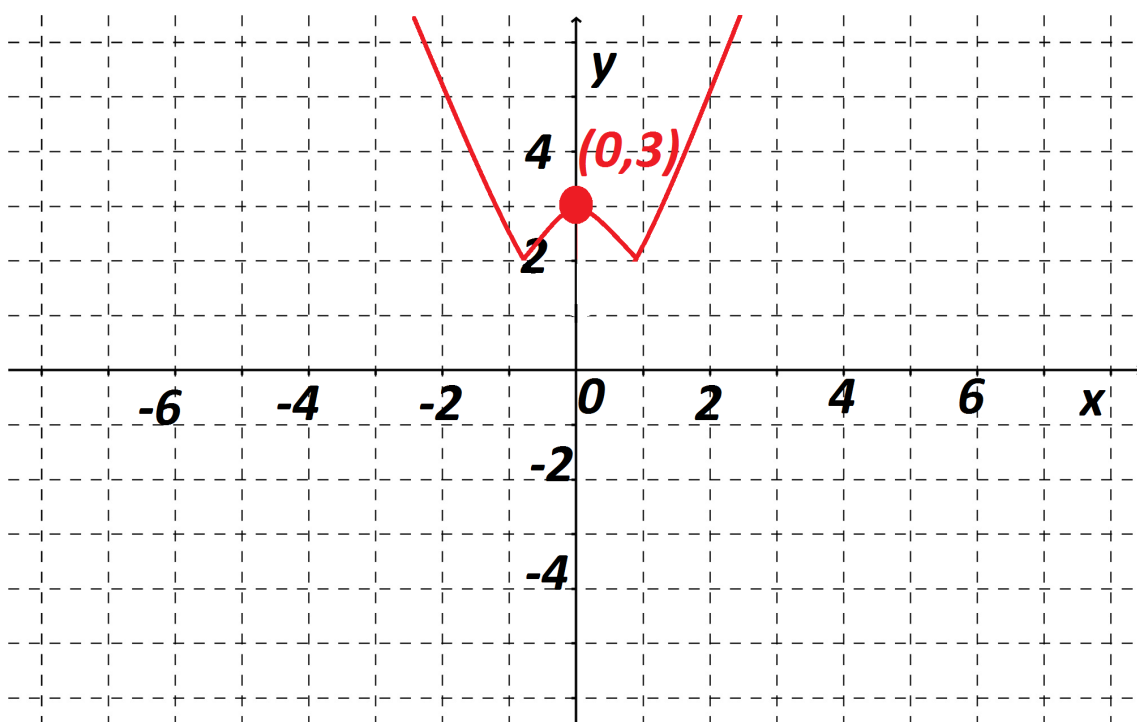
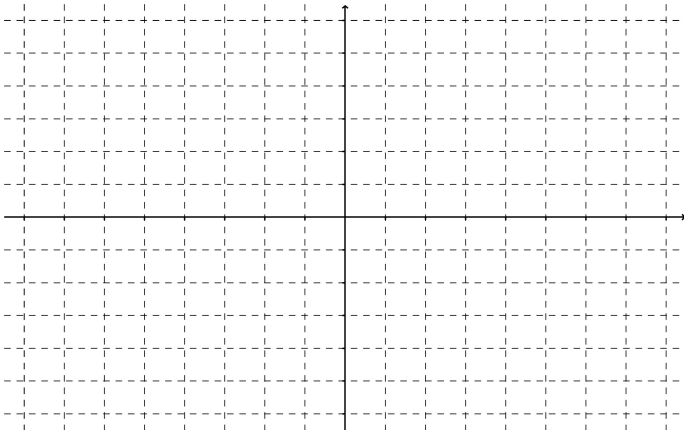$y = \left| x^2 - 1 \right| + 2$

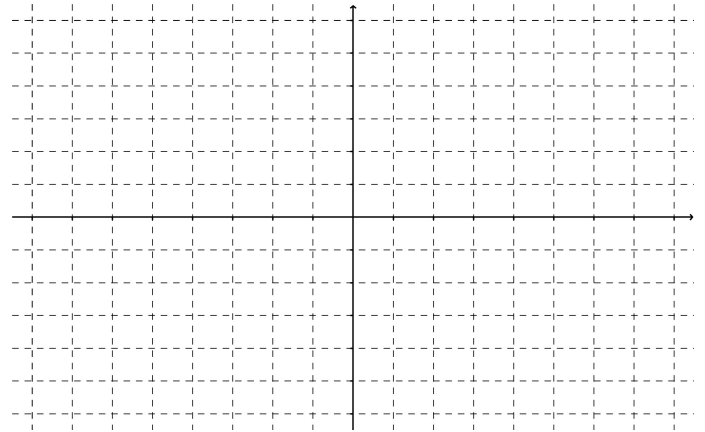Domain: $\underline{(-\infty, \infty)}$ Range: $\underline{[2, \infty)}$

1.

$$y = |2x - 4|$$
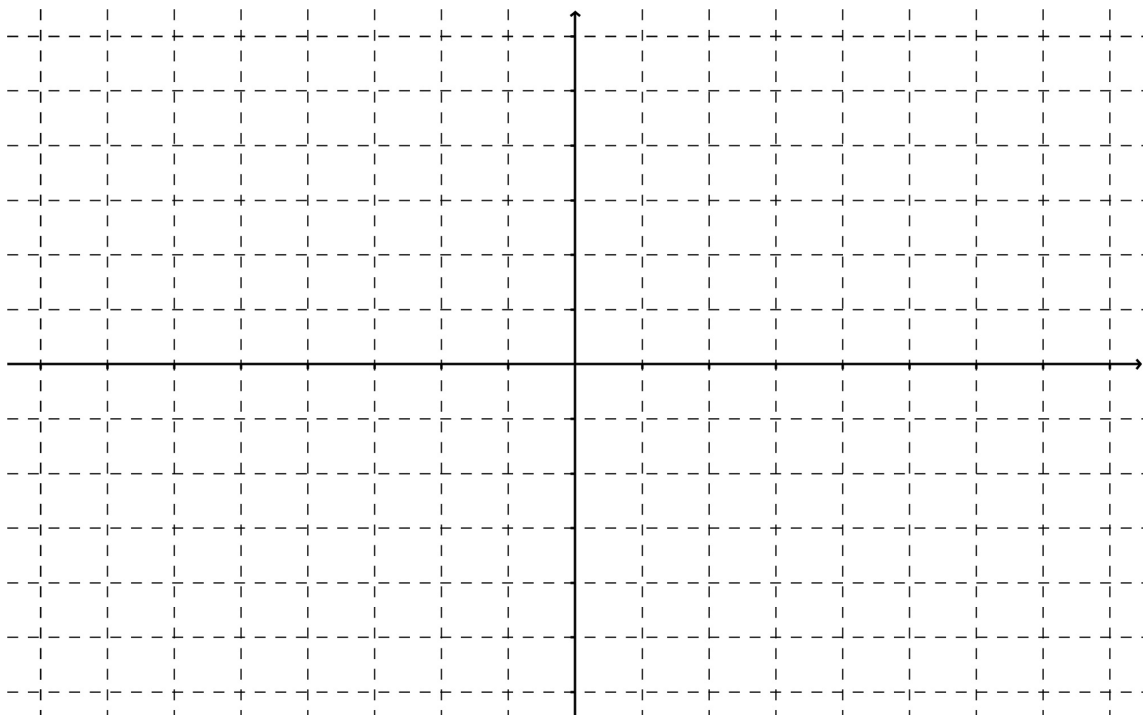
Basic Graph

$y = $ _____

1ˢᵗ move

$y = $ _____

2ⁿᵈ move

$y = $ _____
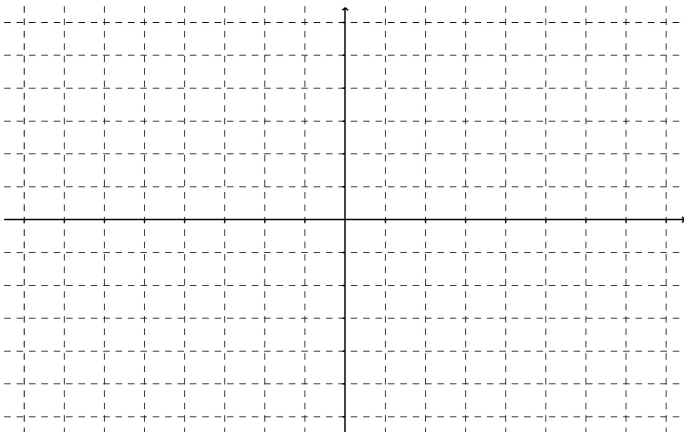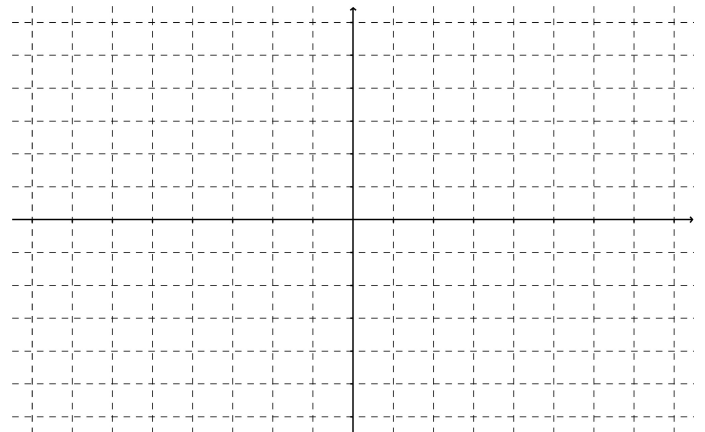
3ʳᵈ move

$y = $ _____

Final Graph
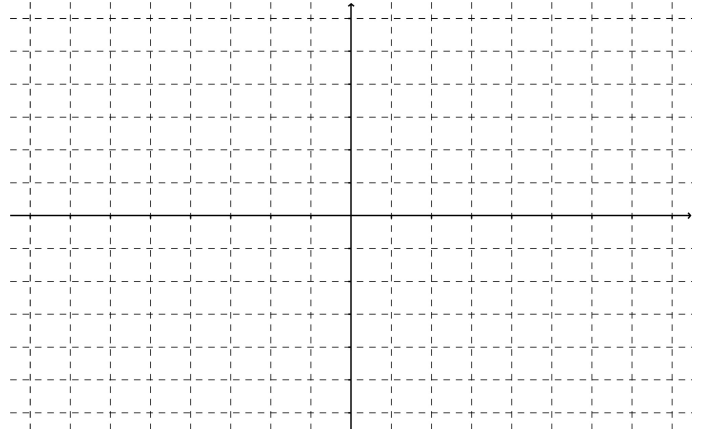
$y = |2x - 4|$

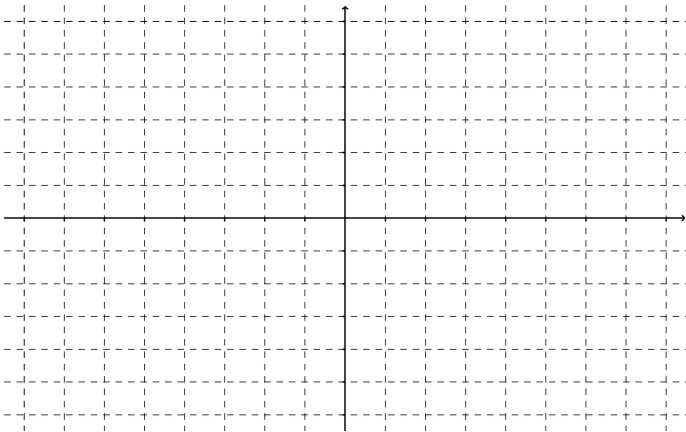Domain: _____   Range: _____

2.

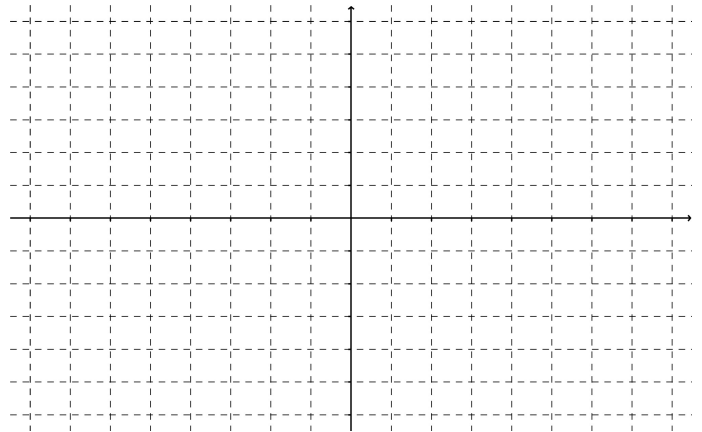$$y = \sqrt{x-2} + 3$$
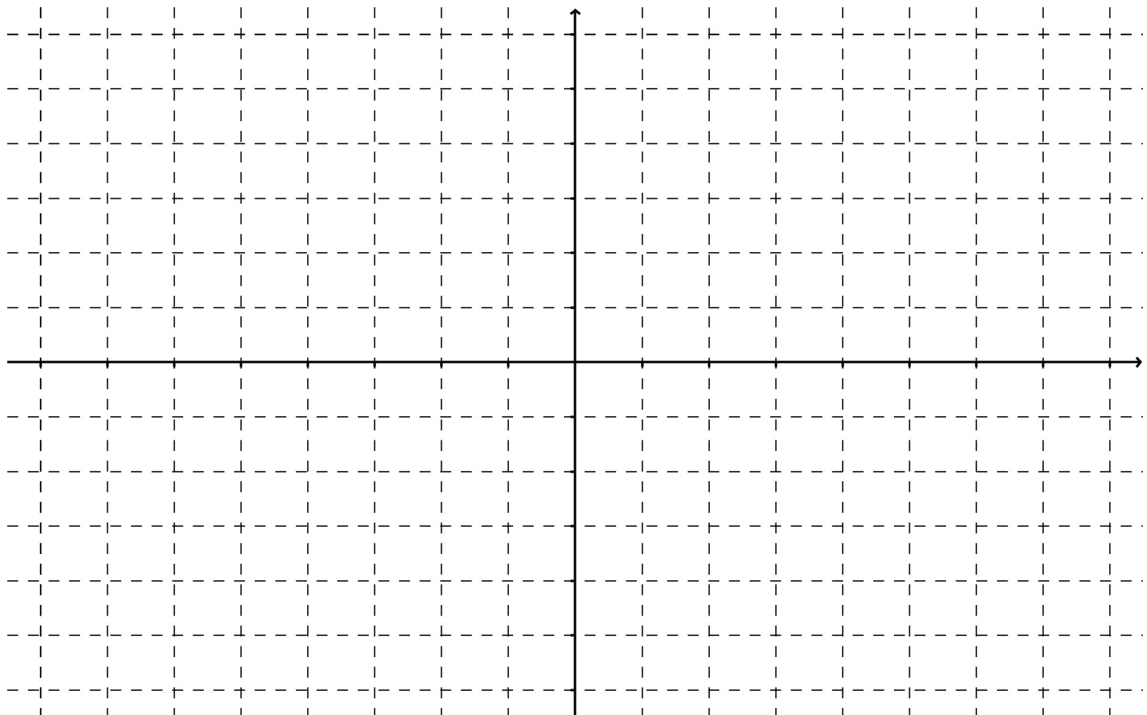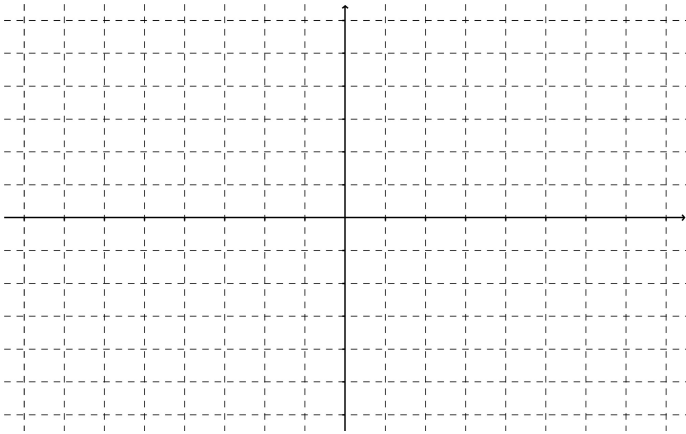
Basic Graph

$y = $ _____

1st move

$y = $ _____

2nd move

$y = $ _____
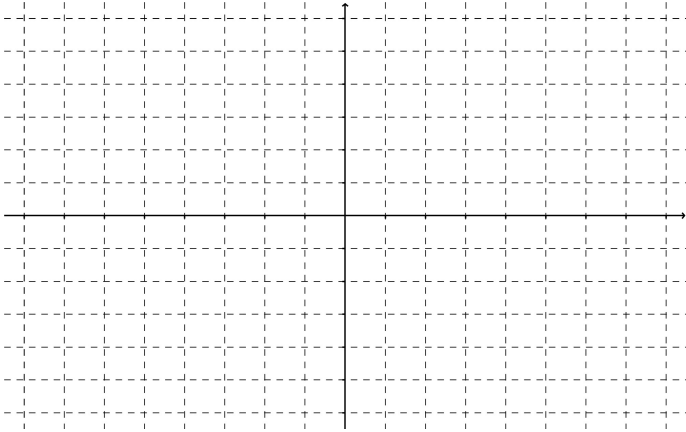
3rd move

$y = $ _____

Final Graph

$y = \sqrt{x-2} + 3$

$y = \sqrt{x-2} + 3$

Domain: _____   Range: _____

3.

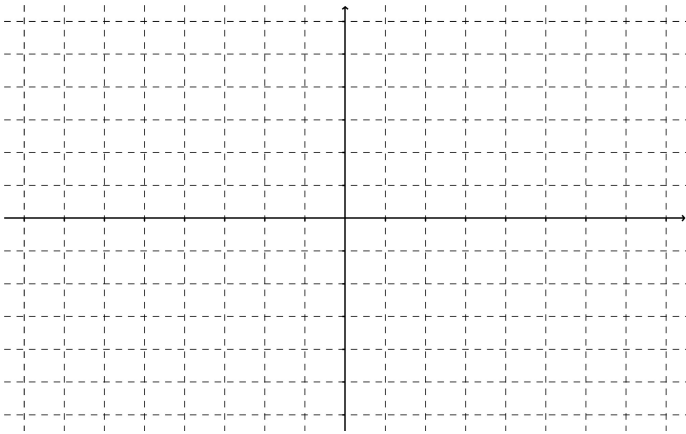$$y = 4 \cdot \sqrt[3]{x} - 2$$

Basic Graph

$y =$ _____
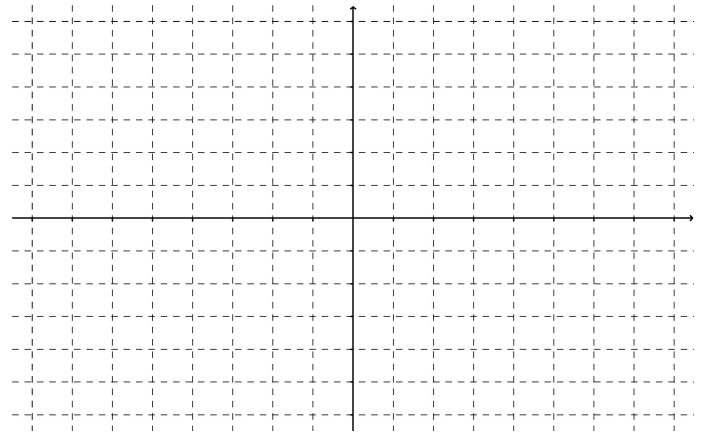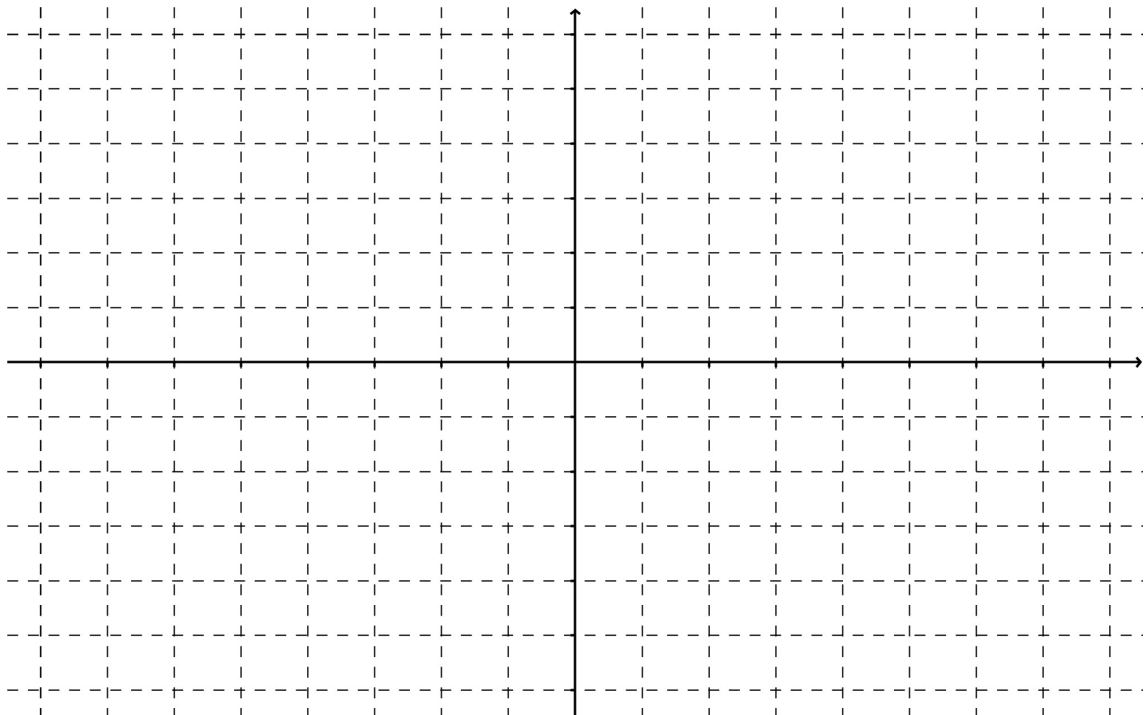
1st move

$y =$ _____

2nd move

$y =$ _____
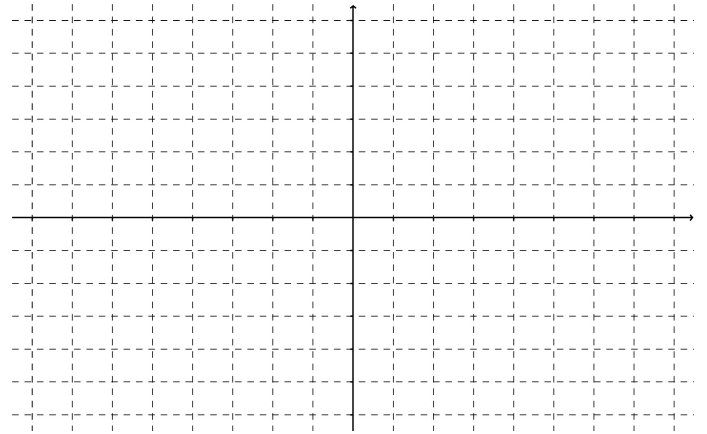
3rd move

$y =$ _____
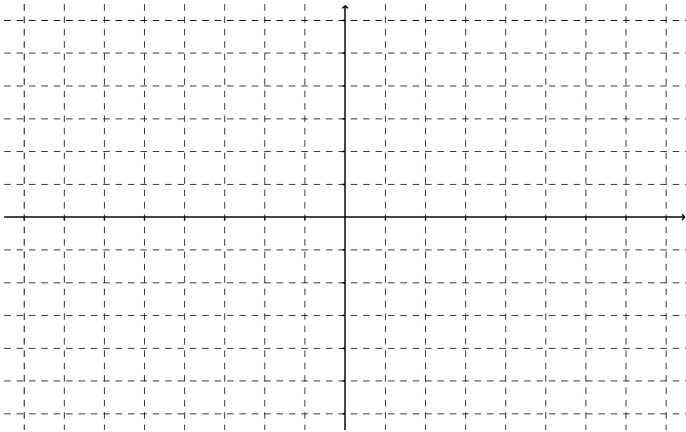
Final Graph

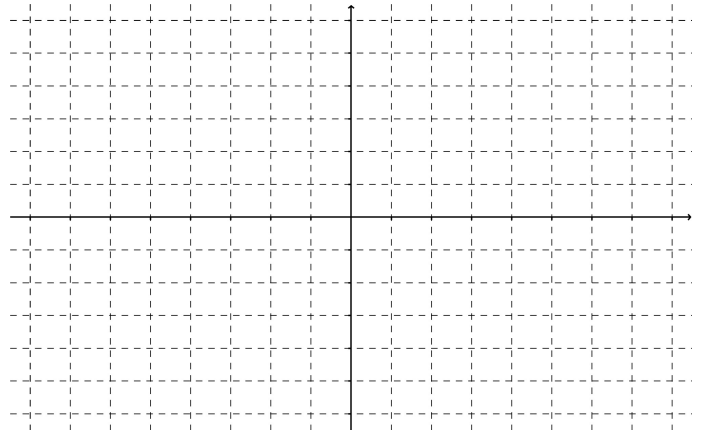$y = 4 \cdot \sqrt[3]{x} - 2$

Domain: _____   Range: _____
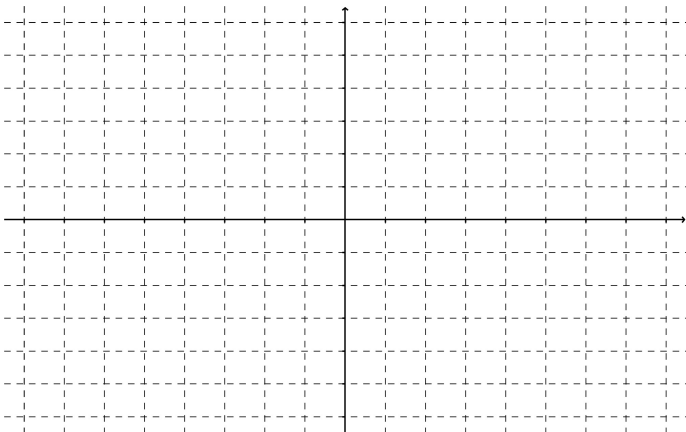
4.

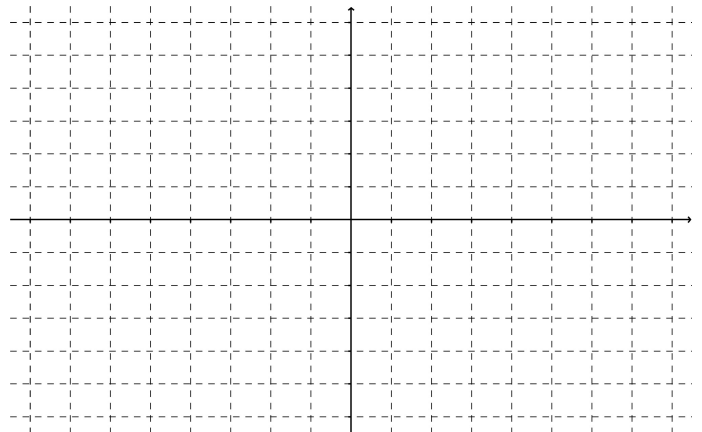$$y = ||2x - 4| - 1|$$

Basic Graph

$y = $ _____

1st move
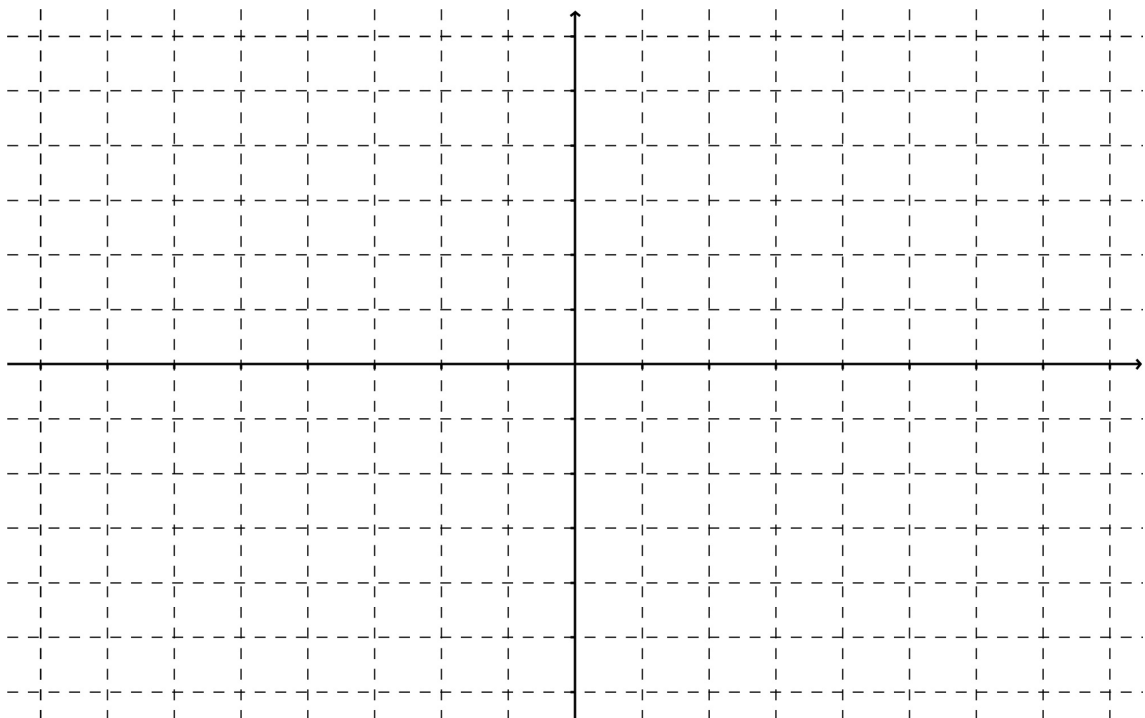
$y = $ _____

2nd move

$y = $ _____

3rd move
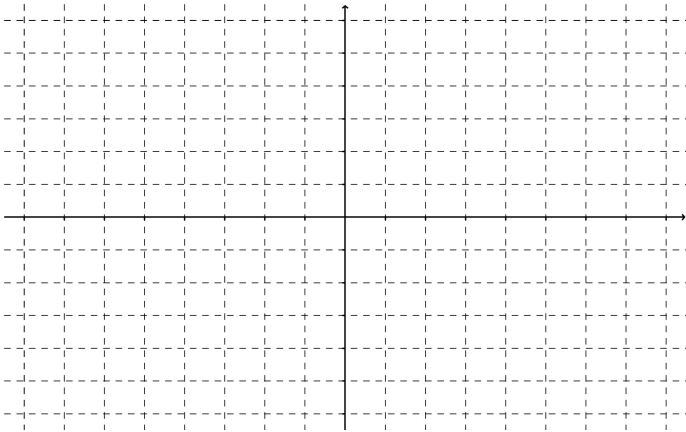
$y = $ _____

Final Graph
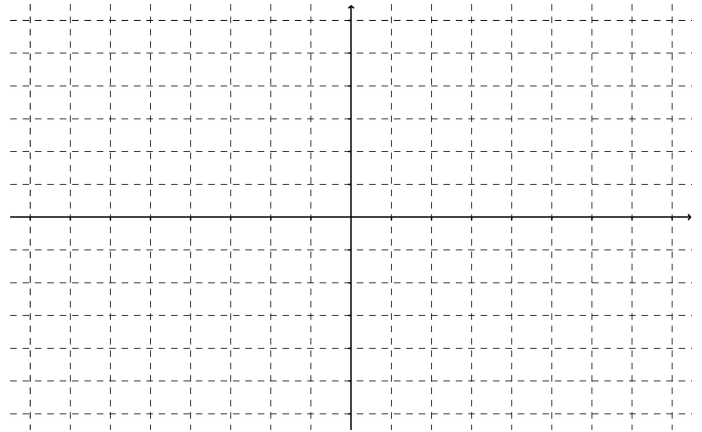
$$||2x - 4| - 1|$$

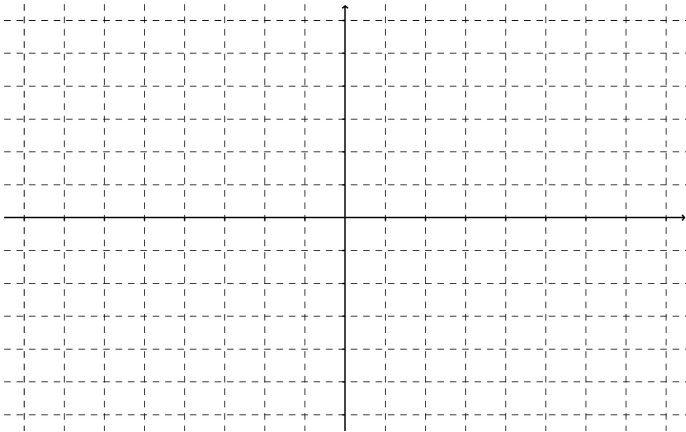Domain: _____   Range: _____

5.

$$y = -(x+1)^2 + 2$$
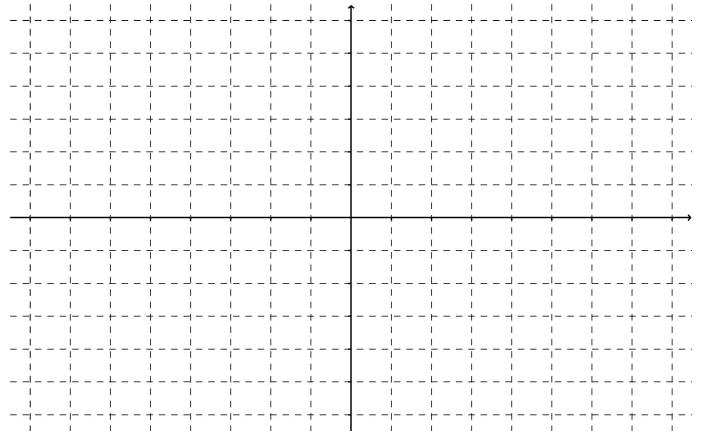
Basic Graph

$y =$ _____
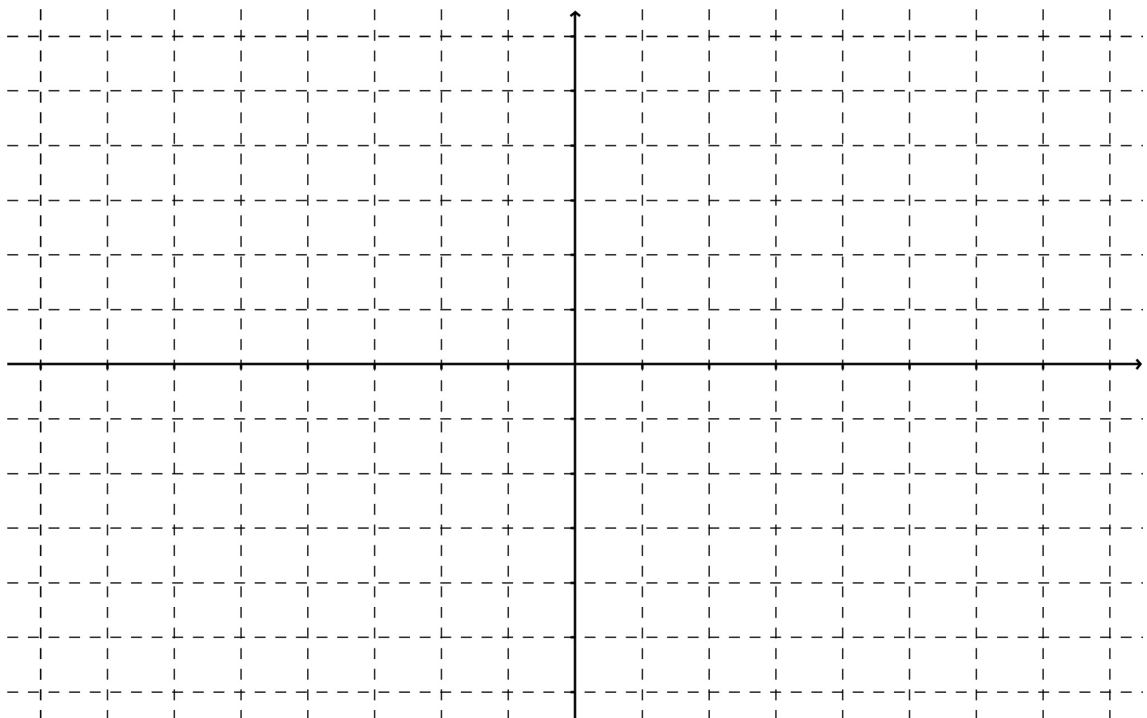
1st move

$y =$ _____

2nd move

$y =$ _____

3rd move

$y =$ _____

Final Graph

$$y = -(x+1)^2 + 2$$

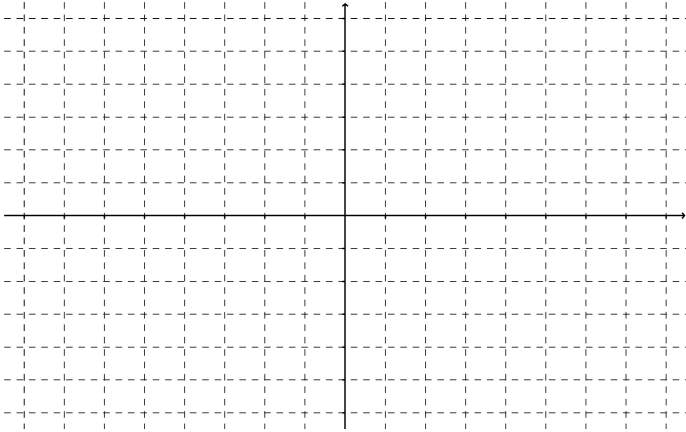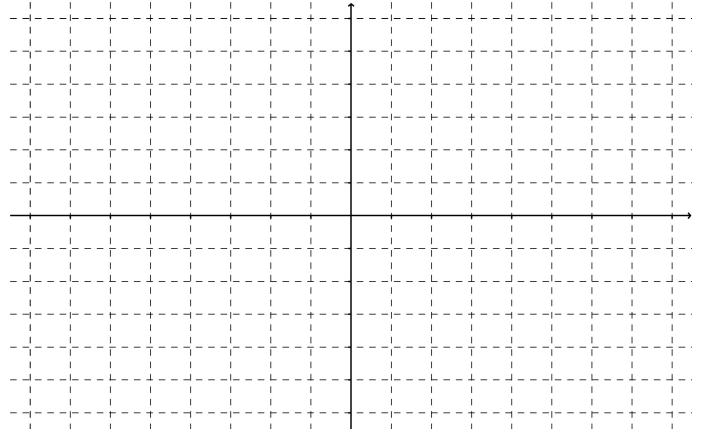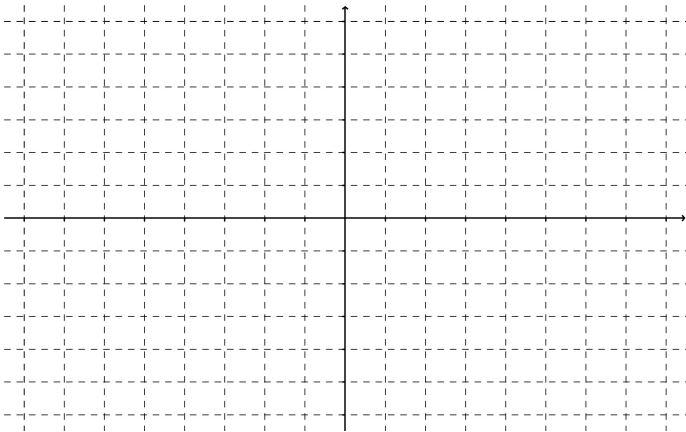Domain: _____   Range: _____

6.

$$y = -2\sqrt{-x} + 1$$

Basic Graph

$y =$ _____

1st move

$y =$ _____

2nd move
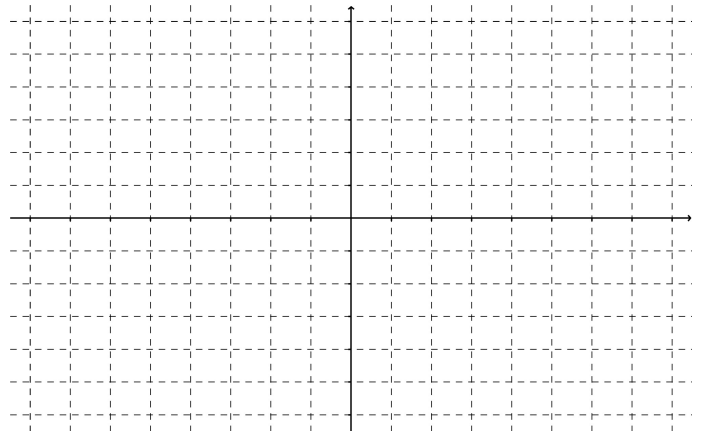
$y =$ _____

3rd move
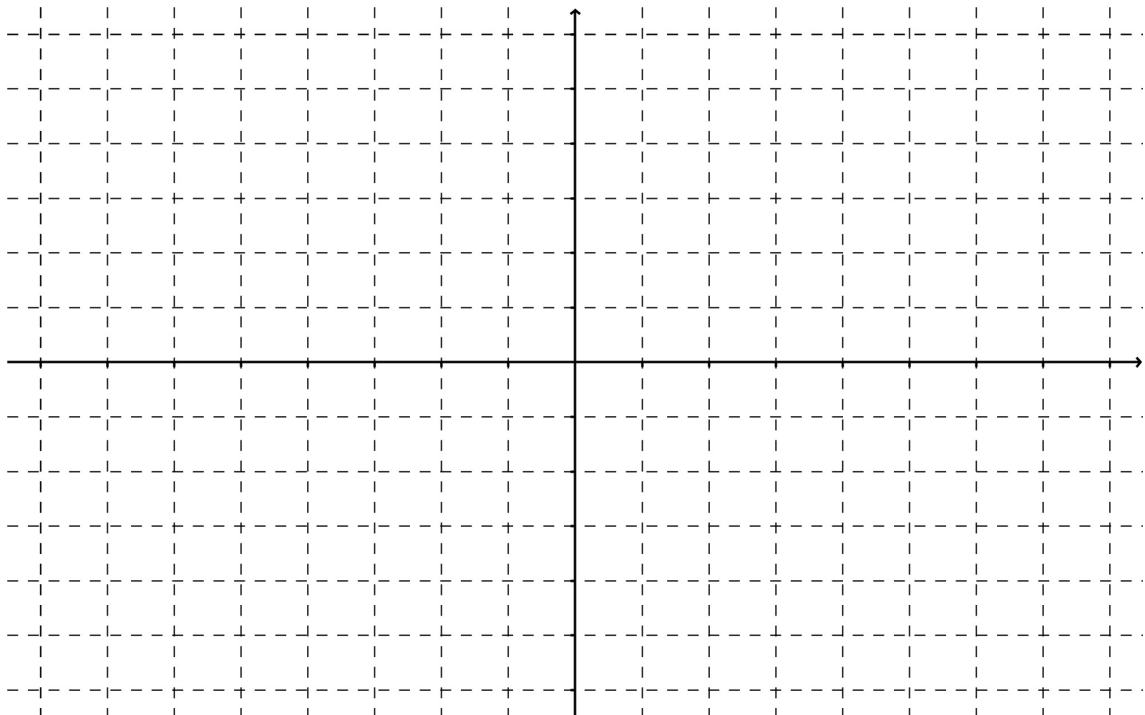
$y =$ _____

Final Graph

$$y = -2\sqrt{-x} + 1$$

Domain: _____   Range: _____