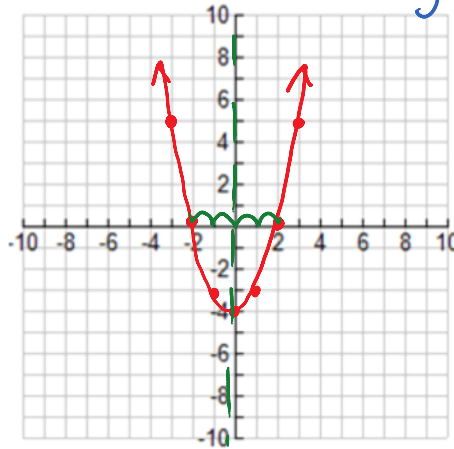


1. Complete the table and sketch a graph of the following function: $y = x^2 - 4$. Then identify key details about the graph.

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

x	y
-3	5
-2	0
-1	-3
0	-4
1	-3
2	0
3	5



y-Intercept: $(0, -4)$

x-Intercept(s): $(-2, 0)$ & $(2, 0)$

Vertex: $(0, -4)$

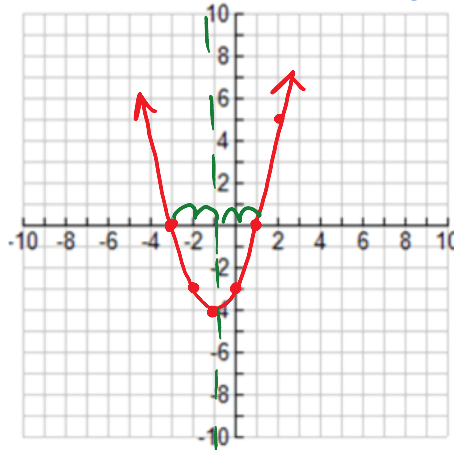
Axis of Symmetry: $x = 0$

Graph Opens: Up / Down (circle one)

2. Complete the table and sketch a graph of the following function: $y = x^2 + 2x - 3$. Then identify key details about the graph.

$$y = (x+3)(x-1)$$

x	y
-3	0
-2	-3
-1	-4
0	-3
1	0
2	5
3	12



y-Intercept: $(0, -3)$

x-Intercept(s): $(-3, 0)$ & $(1, 0)$

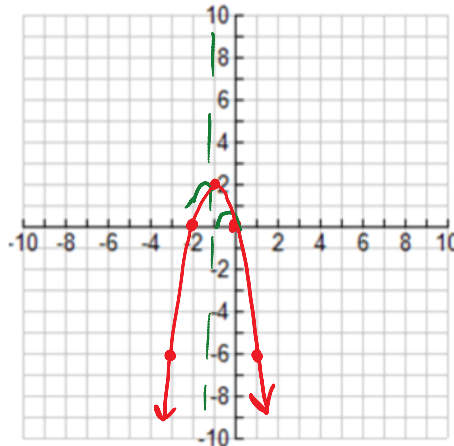
Vertex: $(-1, -4)$

Axis of Symmetry: $x = -1$

Graph Opens: Up / Down (circle one)

3. Complete the table and sketch a graph of the following function: $y = -2x^2 - 4x$. Then identify key details about the graph.

x	y
-3	-6
-2	0
-1	2
0	0
1	-6
2	-16
3	-30



y-Intercept: $(0, 0)$

x-Intercept(s): $(-2, 0)$ & $(0, 0)$

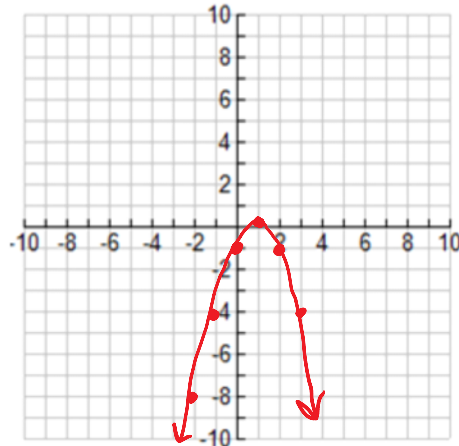
Vertex: $(-1, 2)$

Axis of Symmetry: $x = -1$

Graph Opens: Up / Down (circle one)

4. Complete the table and sketch a graph of the following function: $y = -x^2 + 2x - 1$. Then identify key details about the graph.

x	y
-3	-16
-2	-8
-1	-4
0	-1
1	0
2	-1
3	-4



y-Intercept: $(0, -1)$

x-Intercept(s): $(1, 0)$

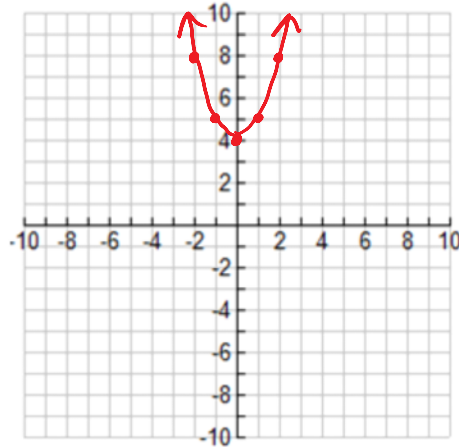
Vertex: $(1, 0)$

Axis of Symmetry: $x = 1$

Graph Opens: Up / Down (circle one)

5. Complete the table and sketch a graph of the following function: $y = x^2 + 4$. Then identify key details about the graph.

x	y
-3	13
-2	8
-1	5
0	4
1	5
2	8
3	13



y-Intercept: $(0, 4)$

x-Intercept(s): none

Vertex: $(0, 4)$

Axis of Symmetry: $x = 0$

Graph Opens: Up / Down (circle one)

Making Connections – think about it!

How might we predict the x-intercepts (without seeing a graph or making a table) from just the equation alone?

Factor! & use ZPP (because the x-intercepts have a y-value of 0).

How do the x-intercept(s) relate to the axis of symmetry?

halfway in between the 2 x-intercepts