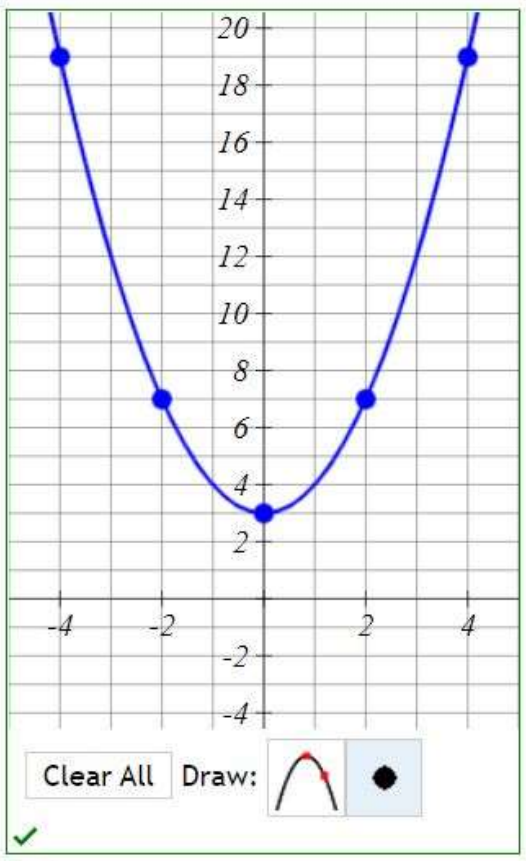
Complete the table below for quadratic equation $y = x^2 + 3$. Then plot all the points and graph the parabola.

When graphing the parabola use the vertex and one of the other points.

x	$y = x^2 + 3$
-4	19 ✓
-2	7 ✓
0	3 ✓
2	7 ✓
4	19 ✓



graphing

$x = -4$ so we get $y = (-4)^2 + 3 = 16 + 3 = 19$

$x = -2$ so we get $y = (-2)^2 + 3 = 4 + 3 = 7$

$x = 0$ so we get $y = 0^2 + 3 = 3$

$x = 2$ so we get $y = 2^2 + 3 = 4 + 3 = 7$

$x = 4$ so we get $y = 4^2 + 3 = 16 + 3 = 19$

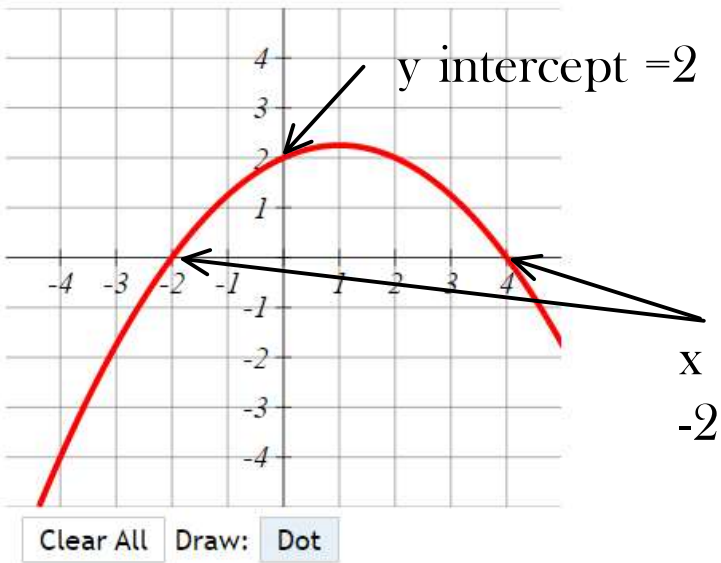
To graph by hand, mark the points and connect them with curved lines.

To graph in MyOpenMath, use the parabola tool. Mark the point (0,3) and then one other point like (2,7).

Rest of the graph gets filled in automatically.

] Mark Question for Use

Place dots on the graph to mark the y-intercept and x-intercepts of the parabola.



y intercept =2 b/c this is where the graph crosses the y-axis

x intercepts b/c this is where the graph crosses the x-axis -2,2

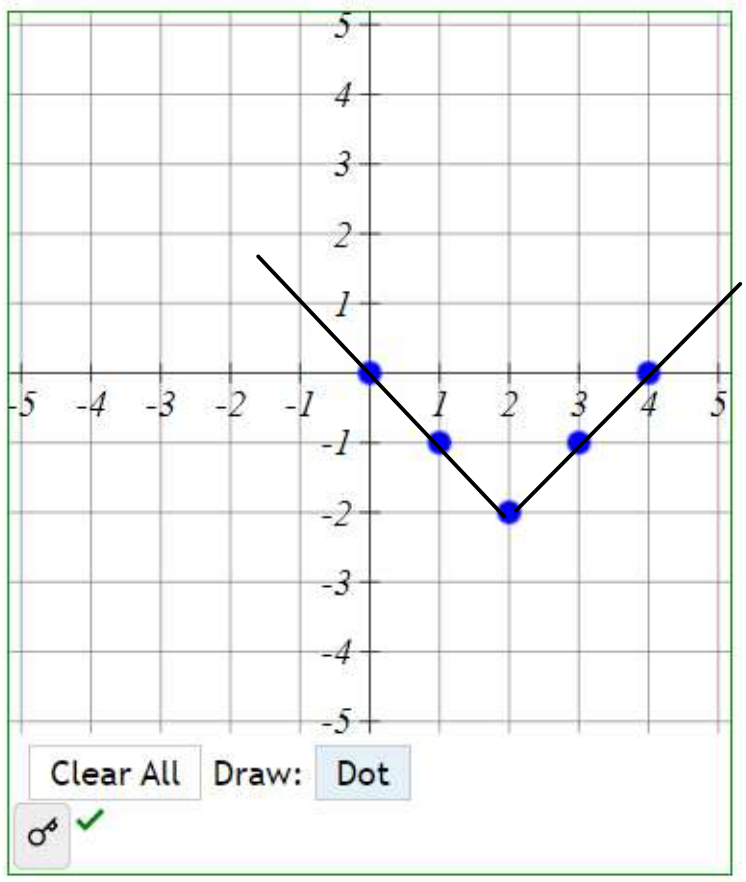
The y-intercept occurs when $y =$ 2

The x-intercepts are at $x =$ $-2, 2$

Use a comma to separate your answers.

Complete the table using $y = |x - 2| - 2$. Then plot the points on the graph.
Is the function linear?

x	y
0	0 ✓
1	-1 ✓
2	-2 ✓
3	-1 ✓
4	0 ✓



- ○ The points are all in a straight line (linear).
- ◉ The points are **not** all in a straight line (non-linear). ✓

$y = |x-2|-2$

$x = 0:\ y = |0-2|-2 = 2-2 = 0, (0, 0)$

$x = 1: y = |1-2|-2 = |-1|-2 = 1-2 = -1, (1,-1)$

$x = 2: y = |2-2|-2 = |0|-2 = 0-2 = -2, (2, -2)$

$x = 3: y = |3-2|-2 = |1|-2 = 1-2 = -1, (3, -1)$

$x = 4: y = |4-2|-2 = |2|-2 = 2-2 = 0, (4, 0)$

For math 201 , just mark the dots. Press the dot button and place the dots. In general, after marking the dots, we'd connect them with straight line segments. Since this graph is not a straight line, it's not linear.