Consider the equation

$$y = x^2 + 3.$$

1 *Is the point* $(-2, -1)$ *on the graph of this equation? (Show what calculation you make to decide.)*

If $x = -2$ and $y = -1$, then the left-hand-side is

$$y = -1,$$

while the right-hand-side is

$$x^2 + 3 = (-2)^2 + 3 = 4 + 3 = 7.$$

Since the equation $-1 = 7$ is false, this point is **not on the graph**.

2 *Make a table of values to graph this equation. (Include at least three values of* x*, at least one positive and at least one negative.)*

I'll actually do five values of x, the integers from -2 to 2:

x,	$y = x^2 + 3$;
-2,	$(-2)^2 + 3 = 7$;
-1,	$(-1)^2 + 3 = 4$;
0,	$(0)^2 + 3 = 3$;
1,	$(1)^2 + 3 = 4$;
2,	$(2)^2 + 3 = 7$.

3 **Extra credit:** *Draw a graph of this equation. (Be sure to label the scale.)*

I made this graph using Wolfram Alpha (`http://www.wolframalpha.com/`) as `Plot [y = x^2 + 3, {x, -3, 3}, {y, -1, 8}]`.