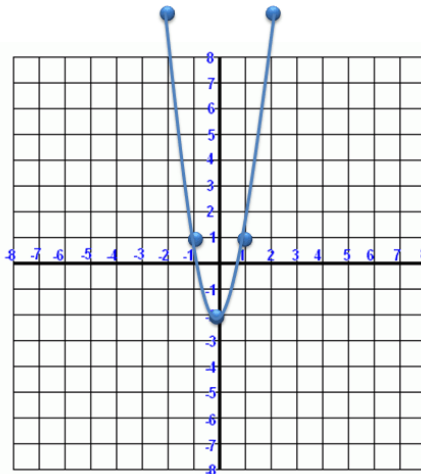## Recall

The domain is the input or *x*-values, and the range is the output or *y*-values of a function. For each quadratic function, specify the domain and the range.

$$y = 3x^2 - 2$$

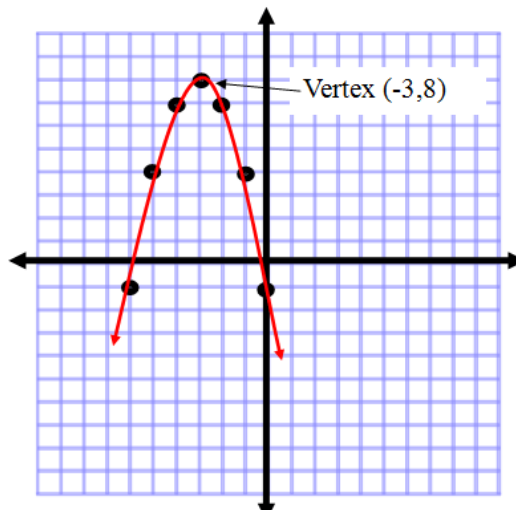| (x, y) |
|---|
| (-2, 10) |
| (-1, 1) |
| (0, -2) |
| (1, 1) |
| (2, 10) |

Domain: _____   **Range:** _____

Step 2: Graph the function using the table of values.

x	-6	-5	-4	-3	-2	-1	0
f(x)	-1	4	7	8	7	4	-1

(-6,-1) (-5,4) (-4,7) (-3,8) (-2,7) (-1,4) (0,-1)

Vertex (-3,8)

Domain: _____   **Range:** _____
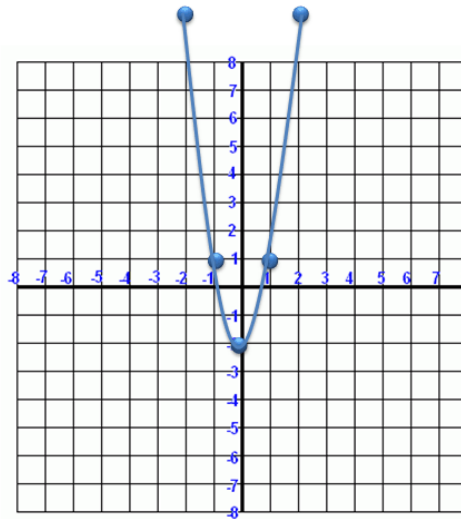
The domain is always _____.

If the vertex is a _____, the range is y _____ the *y*-coordinate of the vertex.

If the vertex is a _____, the range is y _____ the *y*-coordinate of the vertex.

$$y = 3x^2 - 2$$

(x, y)
(-2, 10)
(-1, 1)
(0, -2)
(1, 1)
(2, 10)

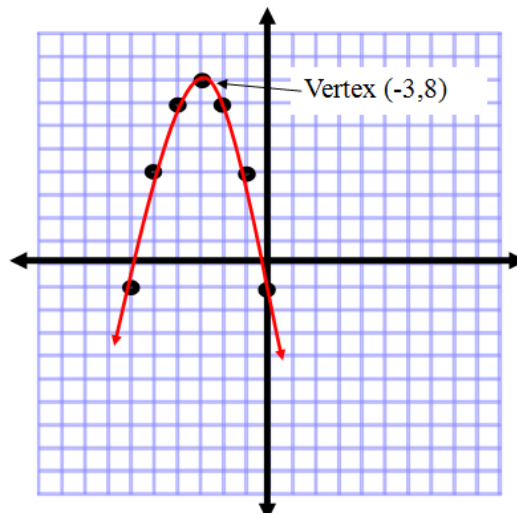**Domain:** __All real numbers__   **Range:** __y ≥ -2__

Step 2: Graph the function using the table of values.

x	-6	-5	-4	-3	-2	-1	0
f(x)	-1	4	7	8	7	4	-1

(-6,-1)   (-5,4)   (-4,7)   (-3,8)   (-2,7)   (-1,4)   (0,-1)

Vertex (-3,8)

Domain: __All real numbers__   **Range:** __y ≤ 8__

For Algebra 1, the domain will always be all real numbers.

If the vertex is a minimum, the range is $y \geq$ the y-coordinate of the vertex.
If the vertex is a maximum, the range is $y \leq$ the y-coordinate of the vertex.