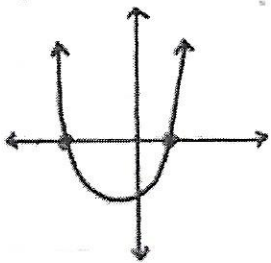


# Algebra 1 Unit 6.2 Notes: Quadratic Functions Cont.

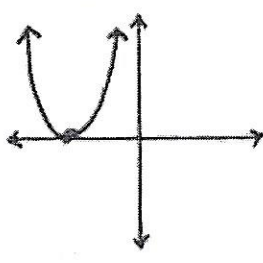
LT: \_\_\_\_\_

**Review:** Determine **HOW MANY solutions** would exist for each quadratic function below.

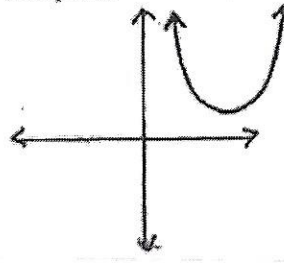
a) \_\_\_\_\_ solutions



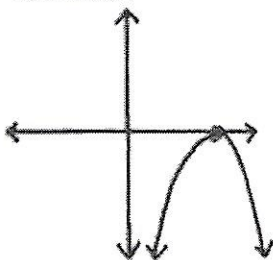
b) \_\_\_\_\_ solutions



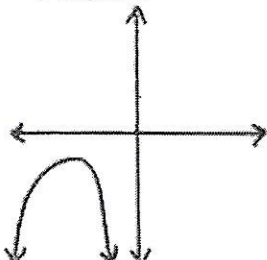
c) \_\_\_\_\_ solutions



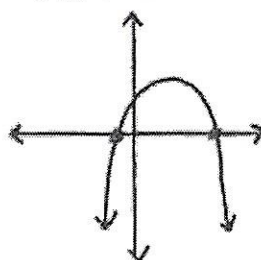
d) \_\_\_\_\_ solutions



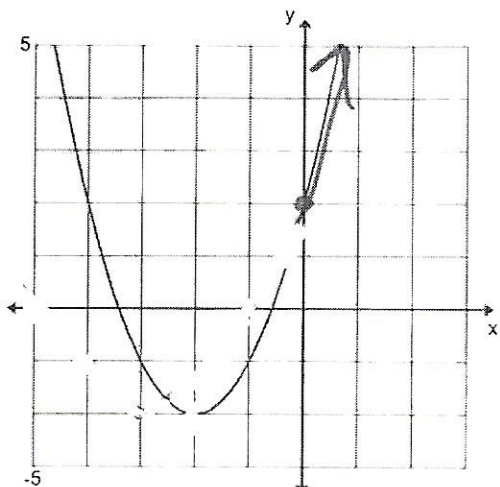
e) \_\_\_\_\_ solutions



f) \_\_\_\_\_ solutions



**Example 2:** Find the following key features of the quadratic function.



y-intercept: \_\_\_\_\_  
 x-int / Roots: \_\_\_\_\_

Vertex: (\_\_\_\_, \_\_\_\_)  
 Min or Max \_\_\_\_\_ Axis of Symmetry: \_\_\_\_\_

Domain: \_\_\_\_\_ Range: \_\_\_\_\_ 0

**Example 3:** Use the table to find the following key feature of the quadratic function's graph.

x	f(x)
-3	48
-2	30
-1	16
0	6
2	-2
3	0
4	6
6	30

y-intercept: (0, 6)

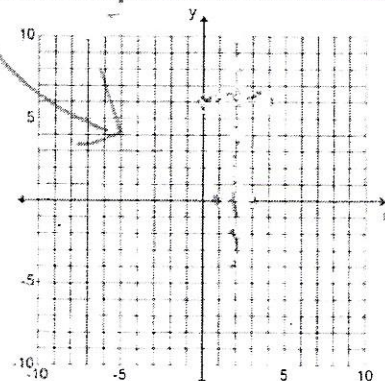
Roots: (-1, 0) and (3, 0)

Vertex: \_\_\_\_\_ Min or Max \_\_\_\_\_

Axis of Symmetry: \_\_\_\_\_

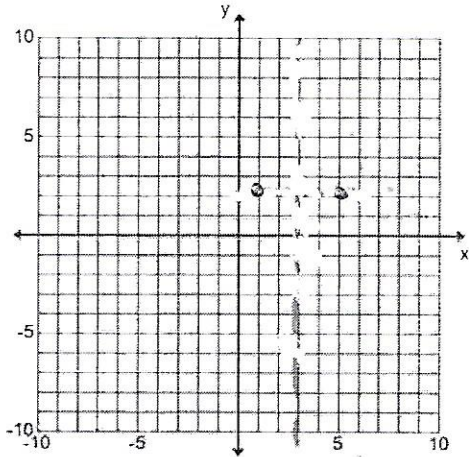
Domain: \_\_\_\_\_

Range: \_\_\_\_\_



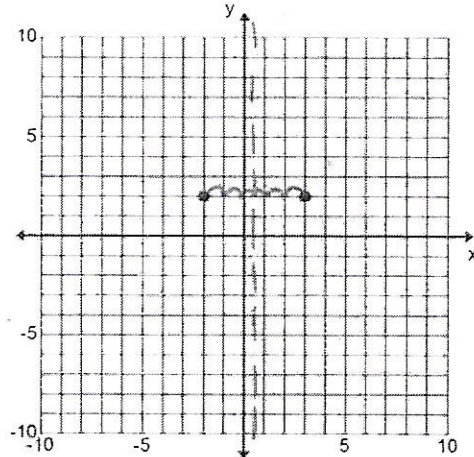
# Algebra 1 Unit 6.2 Notes: Quadratic Functions Cont.

**Example 4:** Two points on the graph of a quadratic function are shown on the graph below.



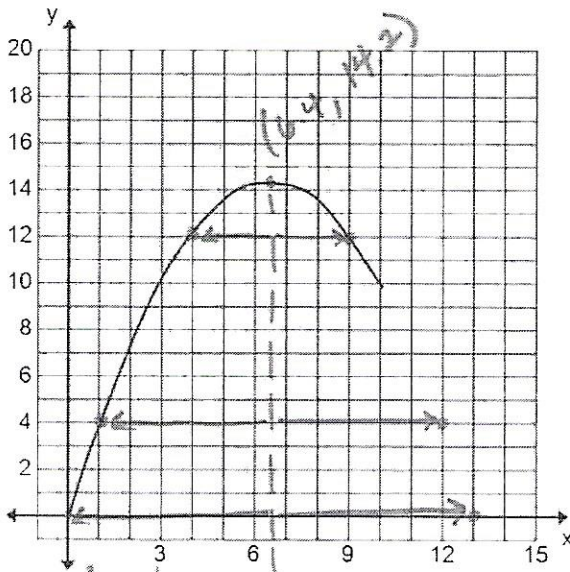
What is the equation of the axis of symmetry of the graph of this function?

**Example 5:** Two points on the graph of a quadratic function are shown on the graph



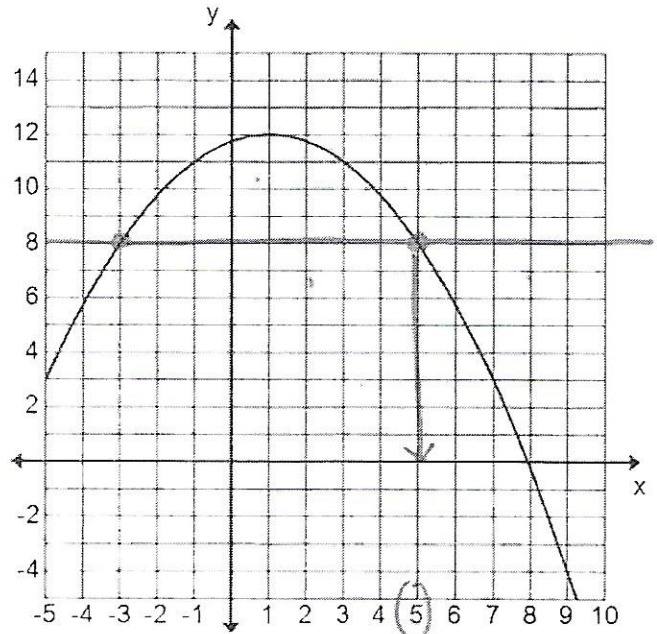
What is the equation of the axis of symmetry of the graph of this function?

**Example 6:** A design student is drawing a graph of an arch. As shown, the arch has the shape of a parabola that begins at the origin and has a vertex of  $(6.4, 14.2)$ .



Other than the origin, at which point will the graph intersect the x-axis?

**Example 7:** What is the positive value when the function is equal to 8?



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# Algebra 1 Unit 6.2 Notes: Quadratic Functions Cont.

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**Example 8:** Evaluate the function for the given domain and range values:

Use the following equation:  $f(x) = 2x^2 + 3x + 6$

1. Find  $f(2)$  : \_\_\_\_\_

2. Find  $f(6)$  : \_\_\_\_\_

3. Find  $f(-20)$  : \_\_\_\_\_

**Example 9:** Find the range of each function for the given domain.  $h(x) = x^2 - 2$ ;  $D = \{-2, 0\}$

**Example 10:** Use the table from Example 3 to find the following values.

$f(-3) =$  \_\_\_\_\_

$f(0) =$  \_\_\_\_\_

$f(4) =$  \_\_\_\_\_

$f(x) = 6$ ,  $x =$  \_\_\_\_\_

$f(x) = 0$ ,  $x =$  \_\_\_\_\_

x	f(x)
-3	48
-2	30
-1	16
0	6
2	-2
3	0
4	6
6	30