Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_\_

Introduction to Quadratic Graphs

Objectives:

* Use tables to identify the properties of quadratic graphs
* Identify the vertex and axis of symmetry

1) y = x2 2) y = 2x2

|  |  |
| --- | --- |
| x | y |
| -2 |  |
| -1 |  |
| 0 |  |
| 1 |  |
| 2 |  |

|  |  |
| --- | --- |
| x | y |
| -2 |  |
| -1 |  |
| 0 |  |
| 1 |  |
| 2 |  |

3) y = ½x2

|  |  |
| --- | --- |
| x | y |
| -2 |  |
| -1 |  |
| 0 |  |
| 1 |  |
| 2 |  |



4) Explain what happened from the parent graph (y = x2 ) to the other two examples.

1) y = x2 2) y = x2 + 3

|  |  |
| --- | --- |
| x | y |
| -2 |  |
| -1 |  |
| 0 |  |
| 1 |  |
| 2 |  |

|  |  |
| --- | --- |
| x | y |
| -2 |  |
| -1 |  |
| 0 |  |
| 1 |  |
| 2 |  |

3) y = x2 – 3

|  |  |
| --- | --- |
| x | y |
| -2 |  |
| -1 |  |
| 0 |  |
| 1 |  |
| 2 |  |



4) Explain what happened from the parent graph (y = x2 ) to the other two examples.

Quadratic Functions

Standard Form: y = ***a***x2 + ***b***x +***c***

Examples:

The graph of a quadratic function is called a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

The parent function is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

The a-coefficient tells you if the graph opens \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

The c-term tells you the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.



How to Find the Axis of Symmetry:

The axis of symmetry is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



Ex. 1:

Ex. 2:

y = ***-3***x2 + ***10***x +***9***

Finding the Vertex:

Step 1: Find the Axis of Symmetry, this will give you the ***x-coordinate*** of the VERTEX

Step 2: substitute the x-coordinate from step 1 into the function, this will give you the ***y-coordinate***

***Step 3:*** Write the coordinate as an **ordered pair**.



Ex. 1: