

Name:

Algebra I

Date: _____ Per: _____

Unit 8: Quadratic Equations

Quiz 4.1 Review - Graphing Quadratic Equations

Identify the following forms of a quadratic equation:

- 1. Standard Form
- 2. Vertex Form

| | |
|----|--|
| 1. | |
| 2. | |

Using the axis of symmetry formula, find the axis of symmetry and vertex for each equation.

3. $y = -x^2 + 10x - 26$ Axis of Symmetry: _____ Vertex: _____

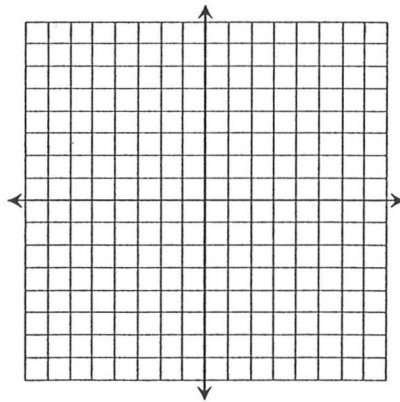
4. $y = 3x^2 - 6x$ Axis of Symmetry: _____ Vertex: _____

5. $y = 2x^2 - 4$ Axis of Symmetry: _____ Vertex: _____

Graph each equation using a table of values, then identify each characteristic.

6. $y = x^2 - 4x - 3$

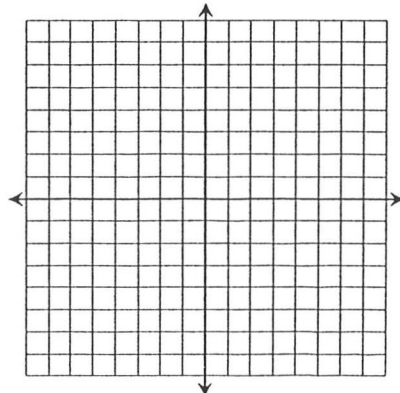
| x | y |
|---|---|
| | |
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| Axis of Symmetry: |
| Vertex: |
| Domain: |
| Range: |

7. $y = -2x^2 - 8x - 4$

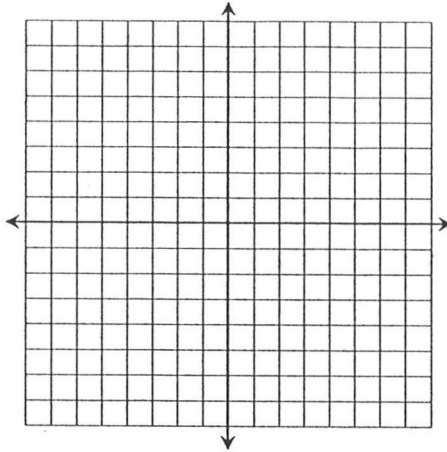
| x | y |
|---|---|
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|-------------------|
| Axis of Symmetry: |
| Vertex: |
| Domain: |
| Range: |

8. $y = -(x-1)^2$

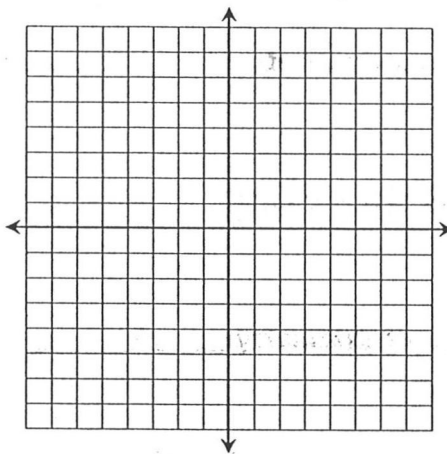
| x | y |
|---|---|
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|--------------------------------|
| Axis of Symmetry: |
| Vertex: |
| Domain: $-\infty < x < \infty$ |
| Range: |
| Transformations: |

9. $y = \frac{1}{2}(x+4)^2 - 8$

| x | y |
|---|---|
| | |
| | |
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| | |



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|-------------------|
| Axis of Symmetry: |
| Vertex: |
| Domain: |
| Range: |
| Transformations: |

Without graphing, describe the transformations of each equation from its parent function.

10. $y = -x^2 + 4$

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| Transformations: |
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11. $y = 3(x-6)^2 - 2$

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| Transformations: |
|------------------|

The transformations to the parent function of a quadratic equation are given below. Write an equation of the new function in vertex form.

12. translated 3 units down

13. translated 7 units right and 2 units up

14. reflected over the x -axis, then translated 5 units left

15. vertically stretched by a factor of 2, then translated 4 units left and 1 unit down

| | |
|-----|-------|
| 12. | _____ |
| 13. | _____ |
| 14. | _____ |
| 15. | _____ |