

**Math 2 Unit 10 Worksheet 1**  
**Quadratic Functions**

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

[1-3] Using the equations and the graphs from section B of the **NOTES**, fill out the table below.

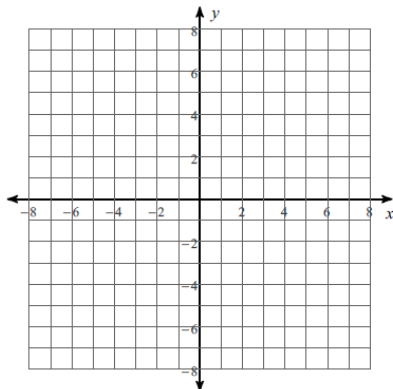
| Equation           | Min or Max? | Vertex | Domain | Range |
|--------------------|-------------|--------|--------|-------|
| 1. $y = x^2 + 3$   |             |        |        |       |
| 2. $y = 3x^2$      |             |        |        |       |
| 3. $y = -2x^2 - 1$ |             |        |        |       |

[4-7] Fill out the table below by looking at the equations. Do **NOT** graph.

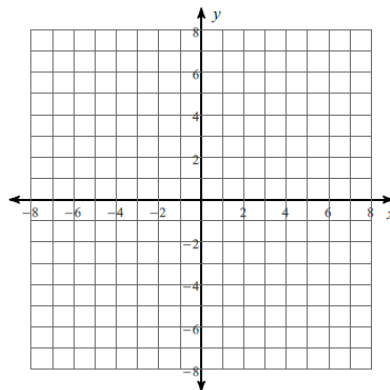
| Equation                                | Min or Max? | Vertex | Domain | Range |
|---|-------------|--------|--------|-------|
| 4. $y = \frac{1}{2}x^2 - 1$             |             |        |        |       |
| 5. $y = 4x^2 + 3$                       |             |        |        |       |
| 6. $y = -3x^2$                          |             |        |        |       |
| 7. $y = -\frac{1}{4}x^2$                |             |        |        |       |
| 8. Which graph will be the skinniest?   |             |        |        |       |
| 9. Which graph(s) will have a maximum?  |             |        |        |       |
| 10. Which graph(s) will have a minimum? |             |        |        |       |
| 11. Which graph will be shifted up?     |             |        |        |       |
| 12. Which graph will be shifted down?   |             |        |        |       |

[13-16] Sketch the graph of the quadratic function based on your work on numbers 4-7.

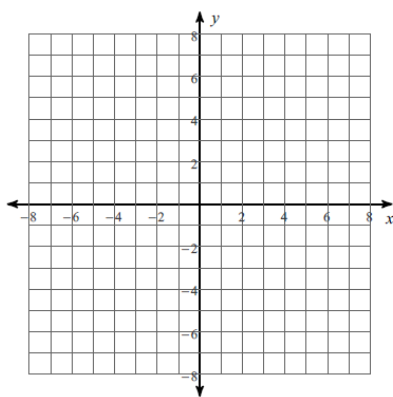
13.  $y = \frac{1}{2}x^2 - 1$



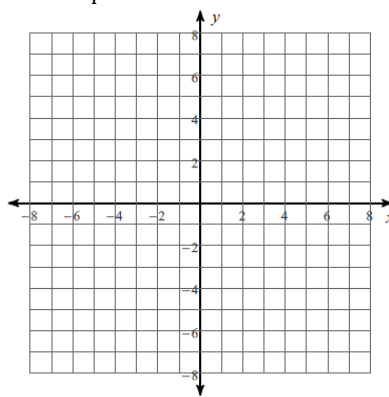
14.  $y = 4x^2 + 3$



15.  $y = -3x^2$



16.  $y = \frac{1}{4}x^2$



[17-22] Review: Factor

17.  $x^2 + 30x - 64$

18.  $x^2 - 14x + 24$

19.  $x^2 - 121$

20.  $36x^2 - 49$

21.  $2x^2 + 11x + 12$

22.  $9x^2 - 30x + 25$