Skill Development/Guided Practice

Name: Period:

## *Lesson 1: 6.1 Parent Quadratic Function*

A **quadratic function** graphs as a **parabola**.
The **coefficient** of $x^2$ declares the **direction** and width of the parabola.
The **constant** declares the ***y*-intercept** of the parabola.

direction

$$y = \pm \boldsymbol{a}x^2 + \boldsymbol{c}$$ ← *y*-intercept

width

1. $y = 3x^2 + 2$

Direction: _____ Width: _____

*y*-intercept: _____

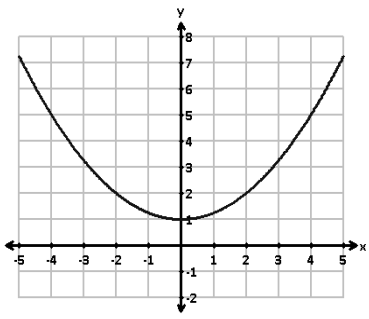
The graph of the quadratic function is _____.

2. $y = 4x^2 + 1$

Direction: _____ Width: _____

*y*-intercept: _____

The graph of the quadratic function is _____.



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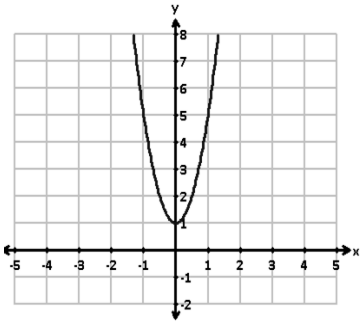

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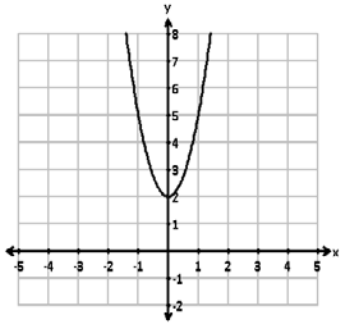

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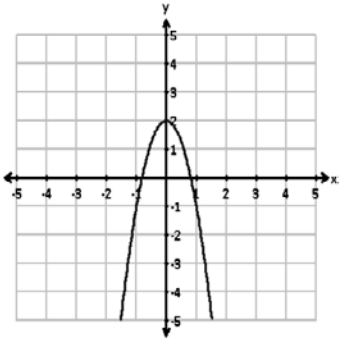


D

A **quadratic function** graphs as a **parabola**.
The **coefficient** of $x^2$ declares the **direction** and width of the parabola.
The **constant** declares the ***y*-intercept** of the parabola.

direction

$$y = \pm \boldsymbol{a}x^2 + \boldsymbol{c}$$

*y*-intercept

width

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

Direction: _____ Width: _____

*y*-intercept: _____

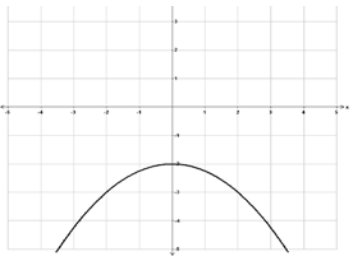
The graph of the quadratic function is _____.

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

Direction: _____ Width: _____

*y*-intercept: _____

The graph of the quadratic function is _____.



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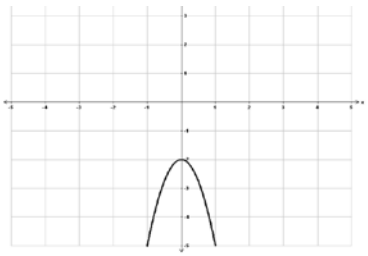

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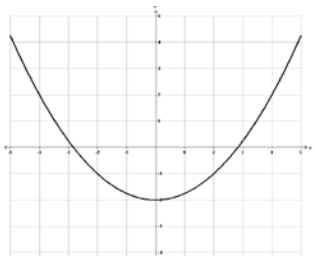

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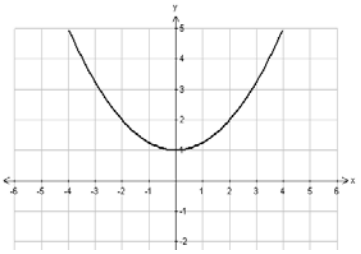

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The **constant** declares the ***y*-intercept** of the parabola.

direction
$y = \pm \boldsymbol{a}x^2 + \boldsymbol{c}$ ← *y*-intercept
width

5. $y = -3x^2 - 1$

Direction: _____ Width: _____

*y*-intercept: _____

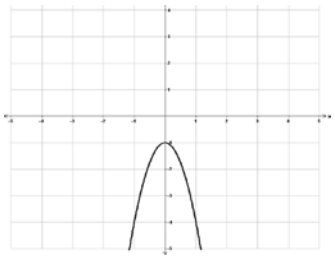
The graph of the quadratic function is _____.

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

Direction: _____ Width: _____

*y*-intercept: _____

The graph of the quadratic function is _____.



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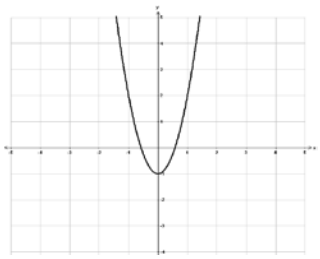

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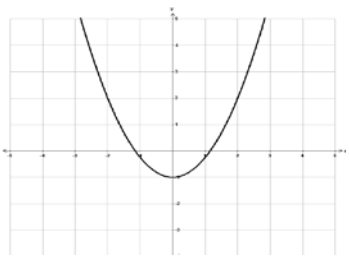

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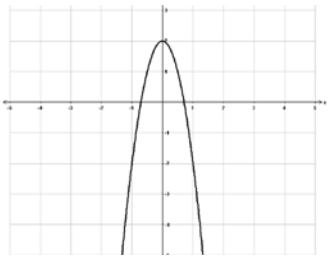

D

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The **coefficient** of $x^2$ declares the **direction** and width of the parabola.
The **constant** declares the ***y*-intercept** of the parabola.

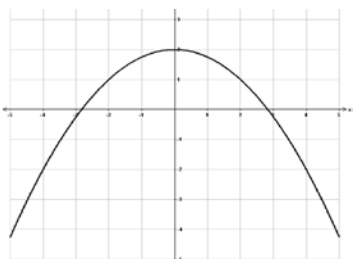
direction
$y = \pm \boldsymbol{a}x^2 + \boldsymbol{c}$ ← *y*-intercept
width

7. $y = -\frac{3}{4}x^2 - 1$

Direction: _____ Width: _____
*y*-intercept: _____
The graph of the quadratic function is _____.

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

Direction: _____ Width: _____
*y*-intercept: _____
The graph of the quadratic function is _____.



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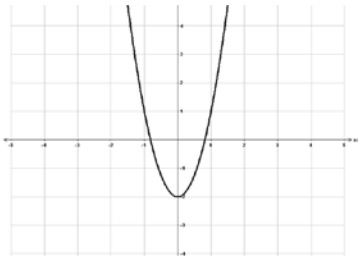

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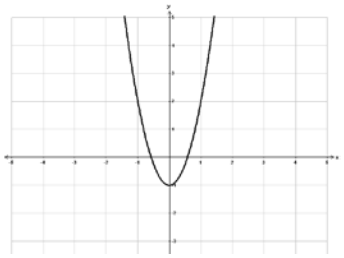

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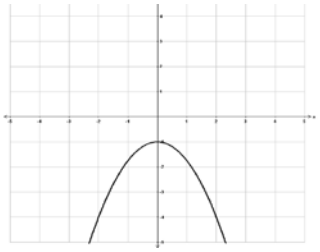
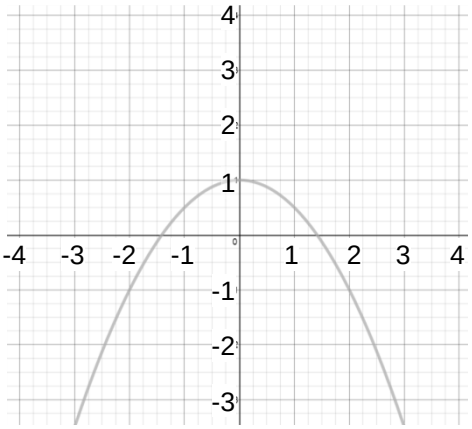


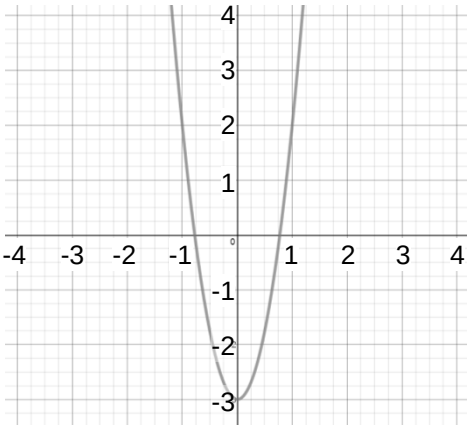
D

## Solving Math Problems

1. Determine what the question is asking.
2. Determine the math concept required.
3. Determine relevant information.
4. Solve the problem, then interpret the answer.
5. Check the reasonableness of your answer.

Describe the graph of the parabola, then find the quadratic function which represents the parabola. The parabolas are of the form $ax^2 + c$. (Hint: Substitute the values of a point on the parabola to find $ax^2$)

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1. How did I/you determine what the question is asking?
2. How did I/you determine the math concept required?
3. How did I/you determine the relevant information?
4. How did I/you solve and interpret the problem?
5. How did I/you check the reasonableness of the answer?

Name _____

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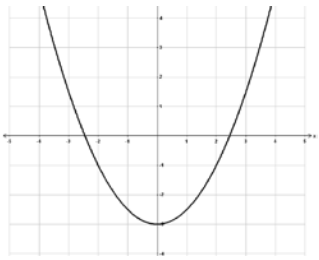
direction
$y = \pm \boldsymbol{a}x^2 + \boldsymbol{c}$ ← *y*-intercept
width

1. $y = 3x^2 + 1$

Direction: _____ Width: _____
*y*-intercept: _____
The graph of the quadratic function is _____.

2. $y = \frac{1}{2}x^2 - 3$

Direction: _____ Width: _____
*y*-intercept: _____
The graph of the quadratic function is _____.



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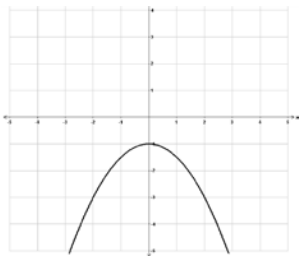

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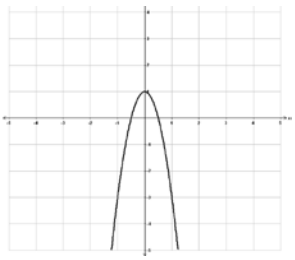

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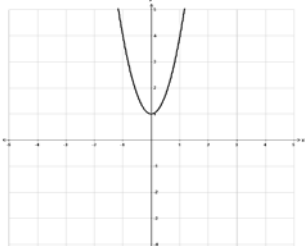

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direction
$y = \pm \boldsymbol{a}x^2 + \boldsymbol{c}$ ← *y*-intercept
width

3. $y = -5x^2 - 3$

Direction: _____ Width: _____

*y*-intercept: _____

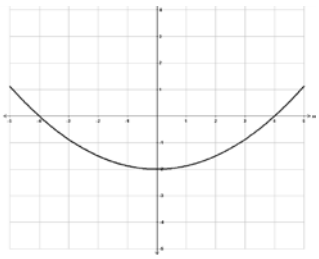
The graph of the quadratic function is _____.

4. $y = -\frac{1}{8}x^2 - 2$

Direction: _____ Width: _____

*y*-intercept: _____

The graph of the quadratic function is _____.



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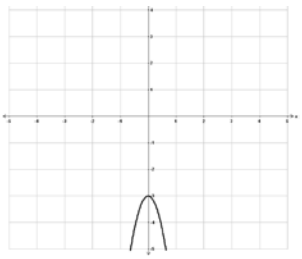

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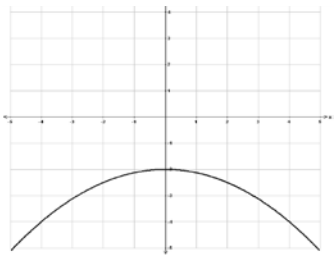

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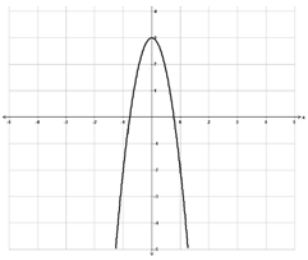

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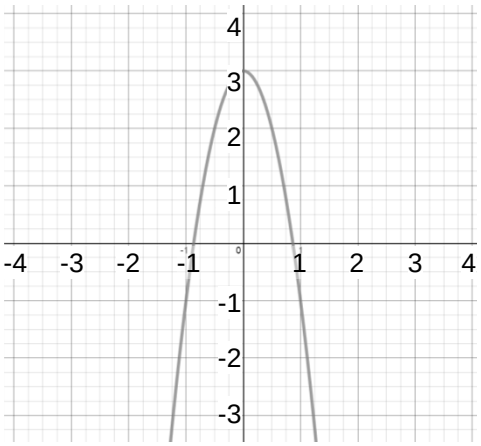


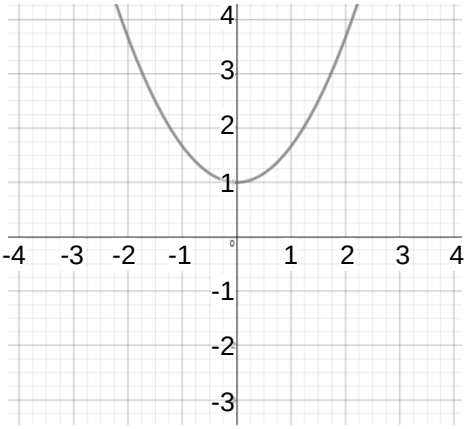


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