

Practice B

1. $x = -2$, $(-2, -4)$. Possible answers: (1, 1) and (2, 8)

2. $x = 1$, (1, 8). Possible answers: (-1, 8) and (-2, -10)

3. 18 feet, 1.5 seconds, 3 seconds
Sector Kick

Practice B

1. $x = -3$

2. $x = -2$ or $x = -2$

3. $x = -3$ or $x = -1$

4. **Solving Quadratics**

- {2, 7}
- {2, 4}
- {-2, -5}
- {0, -7}
- {6}
- {0, -2}
- {-7, -3}
- {4, -2.83}
- {4, -1.5}
- {2, -1}
- {-1.91, 1.91}
- {5.5, -3.5}
- {.82, -.55}
- {7, -18}

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Example

Sketch the graph of the equation $f(x) = -3 - 2x + x^2$.

Standard form: $y = x^2 - 2x - 3$

Axis of symmetry: $y = -\frac{b}{2a} = -\frac{(-2)}{2(1)} = \frac{2}{2(1)} = 1$

Vertex: Substitute $x = 1$ into the equation to get y .

$$y = (1)^2 - 2(1) - 3 = -4$$

vertex: (1, -4)

Table of Values		
x	$x^2 - 2x - 3$	y
-2	$4 + 4 - 3$	5
0	$0 - 0 - 3$	-3
2	$4 - 4 - 3$	-3

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Exercises

Find the following to graph $y + x^2 = 16 + 4x$.

- Standard form:
- Axis of symmetry:
- Vertex:
- Table of values
- Graph

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Lesson 9-1

Tell whether each function is quadratic. Explain.

- $y + 4x^2 = 2x - 3$
- $4x - y = 3$
- $3x^2 - 4 = y + x$

4.	x	-6	-4	-2	-0	2
	y	-5	-6	-4	2	11

5.	x	0	1	2	3	4
	y	-5	-5	-3	1	7

Tell whether the graph of each quadratic function opens upward or downward. Then use a table of values to graph each function.

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

Identify the vertex of each parabola. Then find the domain and range.

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Lesson 9-2

Find the zeros of each quadratic function and the axis of symmetry of each parabola from the graph.

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For each quadratic function, find the vertex of its graph.

- $y = 3x^2 - 6x + 2$
- $y = -2x^2 + 8x - 3$
- $y = x^2 + 2x - 4$

Lesson 9-3

Graph each quadratic function.

- $y = x^2 - 4x + 1$
- $y - 2 = 2x^2$
- $y = 3x^2 - 3x + 1$
- $y - 4 = x^2 + 2x$

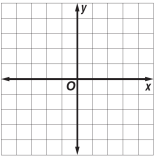
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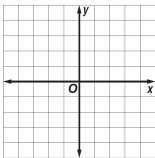
For each quadratic function, find the vertex of its graph.

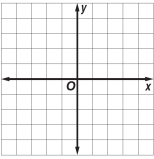
- $y = 3x^2 - 6x + 2$
- $y = -2x^2 + 8x - 3$
- $y = x^2 + 2x - 4$

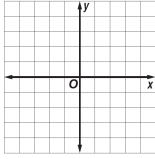
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Graph each quadratic function.

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

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

22. $y - 2 = 2x^2$ 

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

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Lesson 9-5 Solve each quadratic equation by graphing the related function.

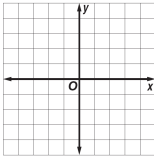
32. $x^2 - x - 2 = 0$

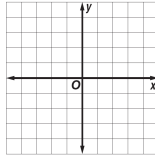
35. $2x^2 + 9x = -4$

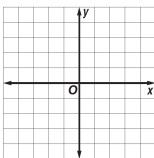
38. $3x^2 = -3x + 6$

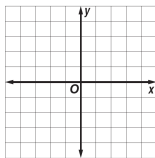
41. $-3x^2 - 2 = 0$

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32. $x^2 - x - 2 = 0$ 

35. $2x^2 + 9x = -4$ 

38. $3x^2 = -3x + 6$ 

41. $-3x^2 - 2 = 0$ 

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