

LESSON
8-1

Practice B
Identifying Quadratic Functions

Tell whether each function is quadratic. Explain.

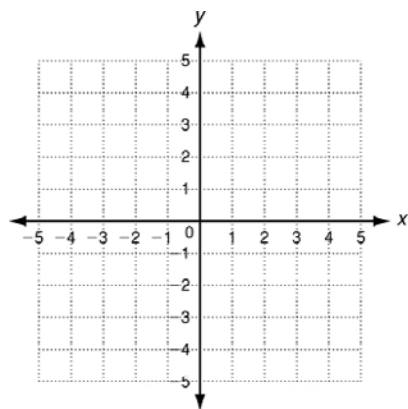
1. $(0, 6), (1, 12), (2, 20), (3, 30)$

2. $3x + 2y = 8$

Use a table of values to graph each quadratic function.

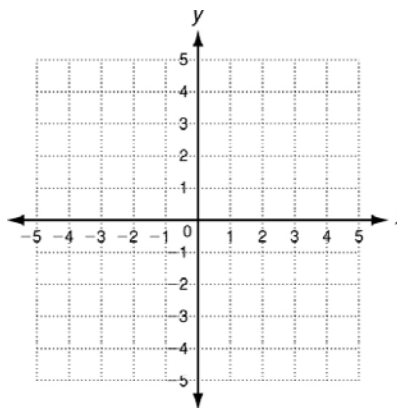
3. $y = -\frac{1}{2}x^2$

x	y



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

x	y



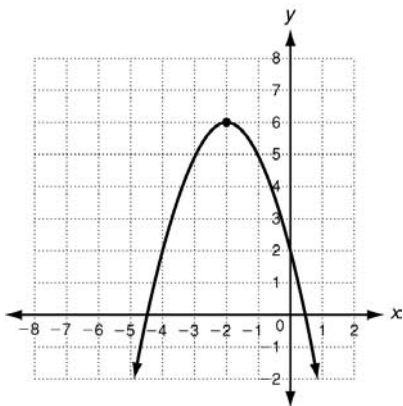
Tell whether the graph of each quadratic function opens upward or downward. Explain.

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

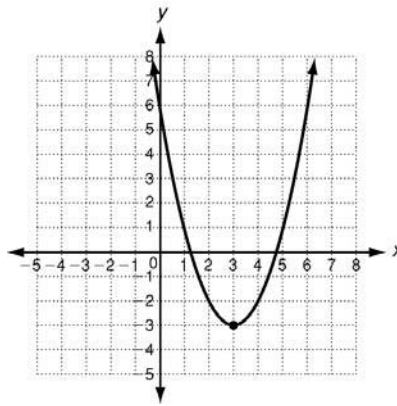
6. $-x^2 + y = 8$

For each parabola, a) identify the vertex; b) give the minimum or maximum value of the function; c) find the domain and range.

7.



8.



a. _____

a. _____

b. _____

b. _____

c. _____

c. _____

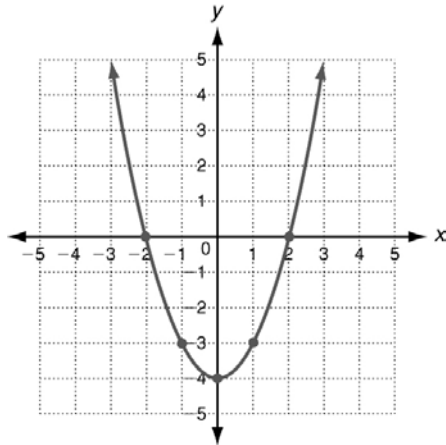
Answer Key For Quadratic Functions and Equations

8-1 IDENTIFYING QUADRATIC FUNCTIONS

Practice A

- yes; the second differences are constant.
- yes; it can be written in the form $y = ax^2 + bx + c$.
-

x	$y = x^2 - 4$	(x, y)
-2	$y = (-2)^2 - 4 = 0$	$(-2, 0)$
-1	$y = (-1)^2 - 4 = -3$	$(-1, -3)$
0	$y = (0)^2 - 4 = -4$	$(0, -4)$
1	$y = (1)^2 - 4 = -3$	$(1, -3)$
2	$y = (2)^2 - 4 = 0$	$(2, 0)$



- downward
- $(-2, -6)$
- D: all real numbers; R: $y \geq -6$
- upward
- minimum: -6

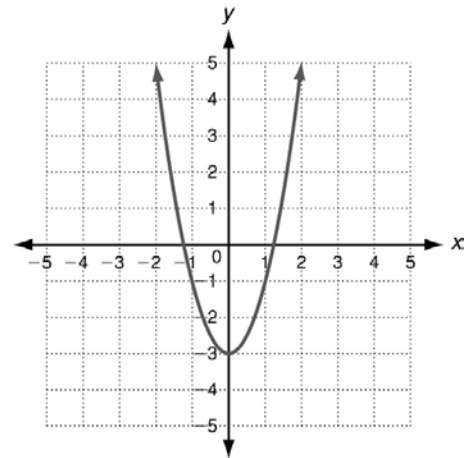
Practice B

- yes; the second differences are constant.
- no; it cannot be written in the form $y = ax^2 + bx + c$.
-

x	y
-2	-2
-1	$-\frac{1}{2}$
0	0
1	$-\frac{1}{2}$
2	-2

4.

x	y
-2	5
-1	-1
0	-3
1	-1
2	5



- downward, $a = -3$, $a < 0$
- upward, $a = 1$, $a > 0$
- a. $(-2, 6)$; b. maximum: 6;
c. D: all real numbers; R: $y \leq 6$
- a. $(3, -3)$; b. minimum: -3 ;
c. D: all real numbers; R: $y \geq -3$

Practice C

- no; the second differences are not constant.
- yes; it can be written in the form $y = ax^2 + bx + c$.

