Name _____ Date _____ Class _____

LESSON 8-1

Practice A

Identifying Quadratic Functions

Tell whether each function is quadratic. Explain.

1.

x	1	2	3	4	5
y	0	3	8	15	24

_____

_____

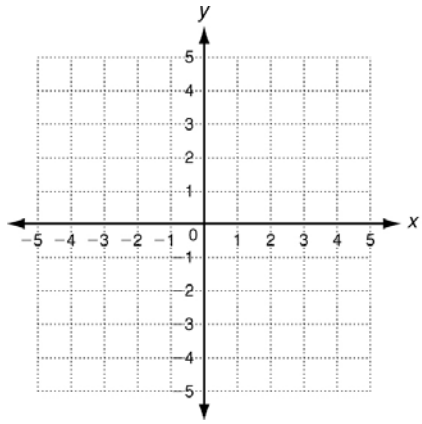
2. $y + 5 = 2x^2$

_____

_____

3. Use the table of values to graph $y = x^2 - 4$.

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



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

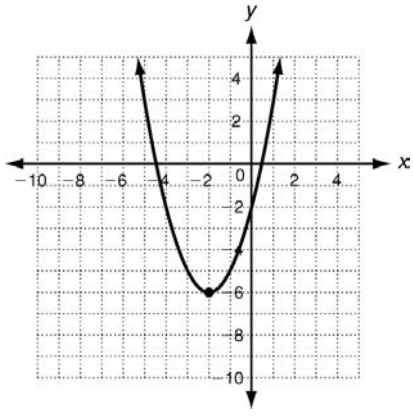
4. $y = -5x^2$

_____

5. $y = 2x^2 + 7$

_____

Use the graph of the quadratic function below for questions 6–8.



6. Identify the vertex of the parabola.

_____

7. Give the minimum or maximum value.

_____

8. Find the domain and range.

_____

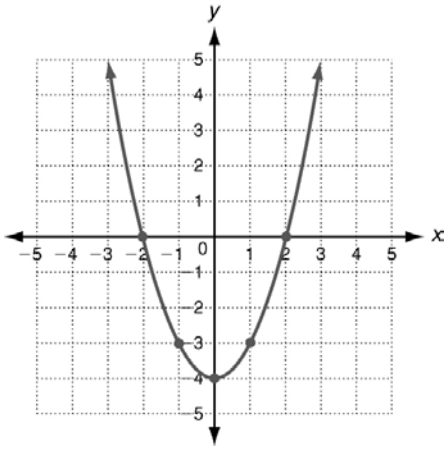
Answer Key For Quadratic Functions and Equations

8-1 IDENTIFYING QUADRATIC FUNCTIONS

Practice A

1. yes; the second differences are constant.
2. yes; it can be written in the form $y = ax^2 + bx + c$.
3.

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)

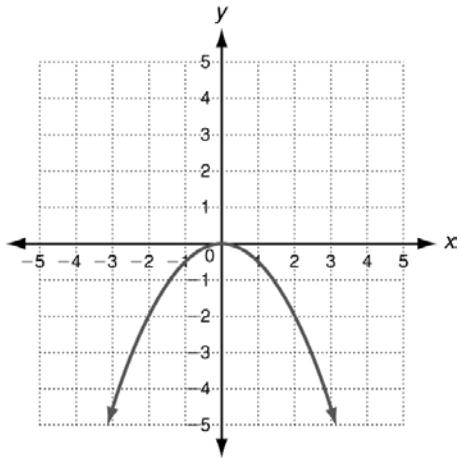


4. downward
5. upward
6. (–2, –6)
7. minimum: –6
8. D: all real numbers; R: $y \geq -6$

Practice B

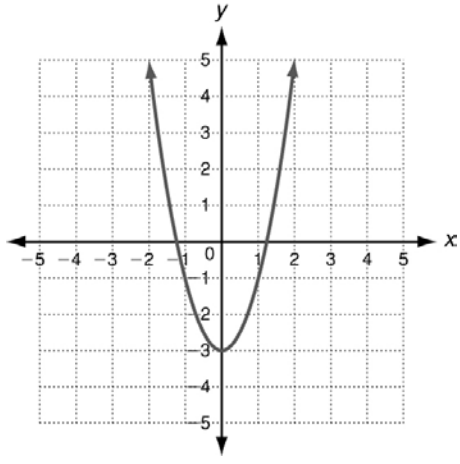
1. yes; the second differences are constant.
2. no; it cannot be written in the form $y = ax^2 + bx + c$.
3.

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



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

Practice C

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