

**LESSON 9.8**

**Practice B**

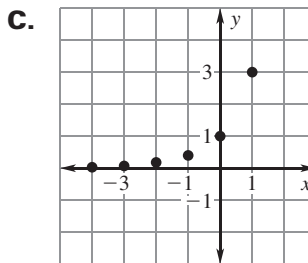
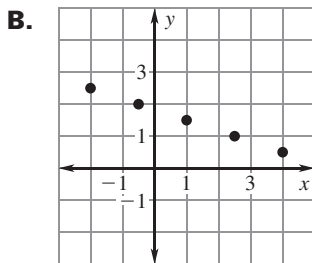
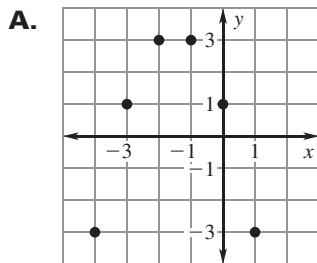
For use with the lesson "Compare Linear, Exponential, and Quadratic Models"

**Match the function with the graph it represents.**

**1. Linear function**

**2. Exponential function**

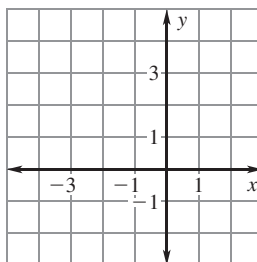
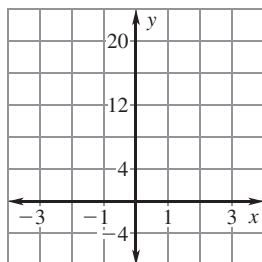
**3. Quadratic function**



**Use a graph to tell whether the ordered pairs represent a linear function, an exponential function, or a quadratic function.**

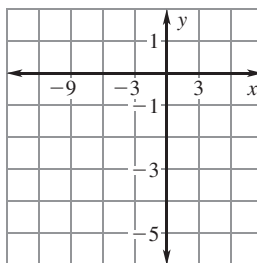
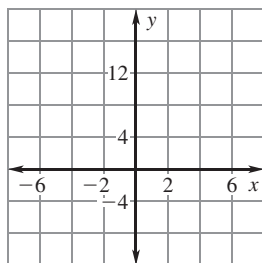
**4.**  $(-2, 16), (-1, 8), (0, 4), (1, 2), (2, 1)$

**5.**  $(-3, 4), (-2, 0), (-1, -2), (0, -2), (1, 0)$



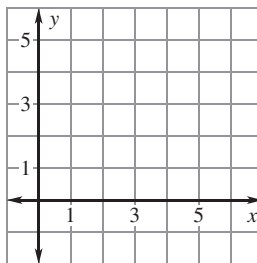
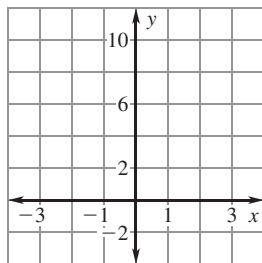
**6.**  $(-4, 17), (-2, 11), (0, 5), (2, -1), (4, -7)$

**7.**  $(-9, -1), (-6, -2), (-3, -3), (0, -4), (3, -5)$



**8.**  $(-2, \frac{1}{9}), (-1, \frac{1}{3}), (0, 1), (1, 3), (2, 9)$

**9.**  $(2, 5), (3, 2), (4, 1), (5, 2), (6, 5)$



**LESSON 9.8**

**Practice B** *continued*

For use with the lesson "Compare Linear, Exponential, and Quadratic Models"

Tell whether the table of values represents a **linear function**, an **exponential function**, or a **quadratic function**.

10. 

|          |   |   |    |     |     |
|----------|---|---|----|-----|-----|
| <b>x</b> | 0 | 1 | 2  | 3   | 4   |
| <b>y</b> | 1 | 5 | 25 | 125 | 625 |

11. 

|          |     |    |    |    |   |
|----------|-----|----|----|----|---|
| <b>x</b> | -2  | -1 | 0  | 1  | 2 |
| <b>y</b> | -10 | -7 | -4 | -1 | 2 |

12. 

|          |    |   |   |   |   |
|----------|----|---|---|---|---|
| <b>x</b> | -1 | 0 | 1 | 2 | 3 |
| <b>y</b> | 4  | 1 | 0 | 1 | 4 |

13. 

|          |     |     |   |     |    |
|----------|-----|-----|---|-----|----|
| <b>x</b> | -10 | -5  | 0 | 5   | 10 |
| <b>y</b> | 4   | 3.5 | 3 | 2.5 | 2  |

14. 

|          |    |    |   |               |               |
|----------|----|----|---|---------------|---------------|
| <b>x</b> | -2 | -1 | 0 | 1             | 2             |
| <b>y</b> | 32 | 8  | 2 | $\frac{1}{2}$ | $\frac{1}{8}$ |

15. 

|          |    |    |    |    |    |
|----------|----|----|----|----|----|
| <b>x</b> | -4 | -3 | -2 | -1 | 0  |
| <b>y</b> | -3 | 0  | 1  | 0  | -3 |

16. 

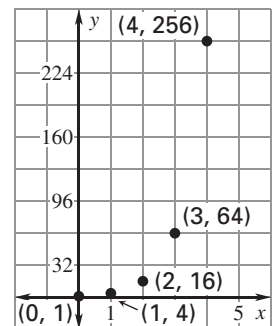
|          |    |    |   |   |   |
|----------|----|----|---|---|---|
| <b>x</b> | -2 | -1 | 0 | 1 | 2 |
| <b>y</b> | 1  | 3  | 5 | 7 | 9 |

17. 

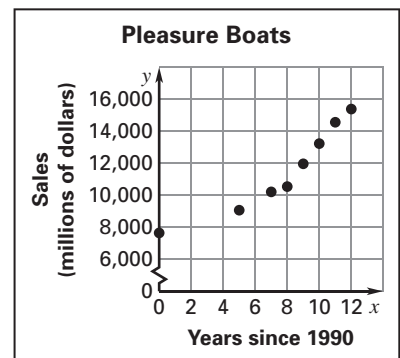
|          |    |    |    |   |               |
|----------|----|----|----|---|---------------|
| <b>x</b> | -3 | -2 | -1 | 0 | 1             |
| <b>y</b> | 27 | 9  | 3  | 1 | $\frac{1}{3}$ |

18. Use the graph shown.

- Which function does the graph represent, an *exponential function* or a *quadratic function*? Explain your reasoning.
- Make a table of values for the points on the graph. Then use differences or ratios to check your answer in part (a).
- Write an equation for the function that the table of values from part (b) represents.



19. **Pleasure Boats** The graph shows total amount of sales (in millions of dollars) of pleasure boats in the United States for the period 1990–2002. Tell whether the data should be modeled by a *linear function*, an *exponential function*, or a *quadratic function*. Explain your reasoning.



20. **Computer Value** The value  $V$  of a computer between 1999 and 2003 is given in the table. Tell whether the data should be modeled by a *linear function*, an *exponential function*, or a *quadratic function*. Then write an equation for the function.

|   |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|
| <b>Years since 1999, <math>t</math></b> | 0   | 1   | 2   | 3   | 4   |
| <b>Value, <math>V</math> (dollars)</b>  | 800 | 725 | 650 | 575 | 500 |