LESSON 7.5

Practice B

For use with the lesson "Write and Graph Exponential Decay Functions"

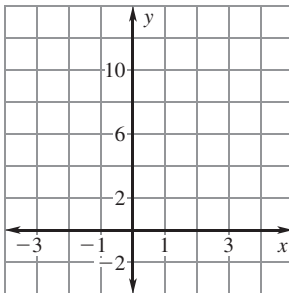**Tell whether the table represents an exponential function. If so, write a rule for the function.**

1.

x	−2	−1	0	1	2
y	25	5	1	$\frac{1}{5}$	$\frac{1}{25}$

2.

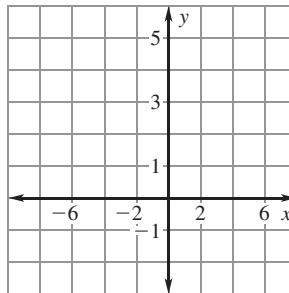| x	−1	0	1	2	3
y	1	4	7	10	13

Graph the function and identify its domain and range.
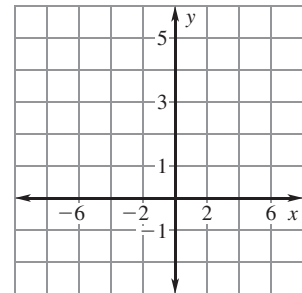
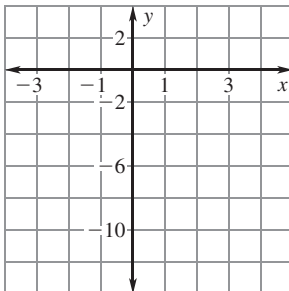**3.** $y = \left(\frac{1}{12}\right)^x$

4. $y = \left(\frac{7}{8}\right)^x$
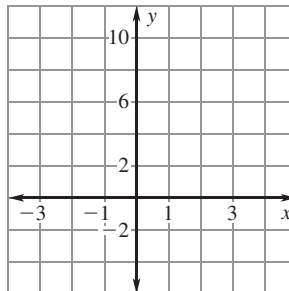

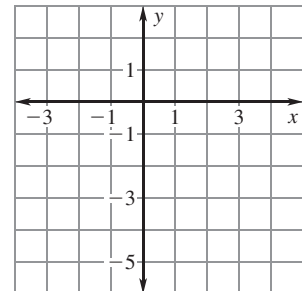**5.** $y = \left(\frac{8}{9}\right)^x$

6. $y = -\left(\frac{1}{8}\right)^x$
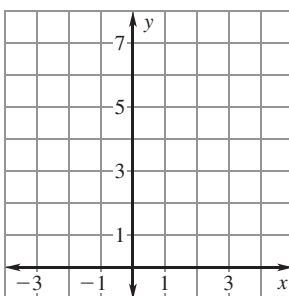

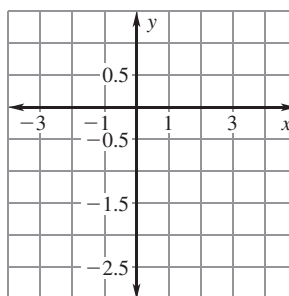**7.** $y = 2 \cdot \left(\frac{1}{5}\right)^x$

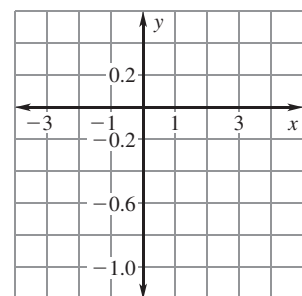**8.** $y = -2 \cdot \left(\frac{2}{3}\right)^x$

9. $y = 2 \cdot (0.25)^x$
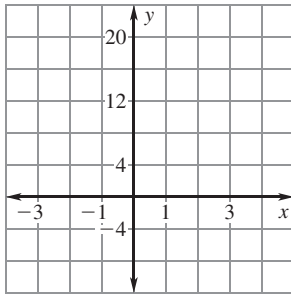

10. $y = -0.5 \cdot (0.3)^x$
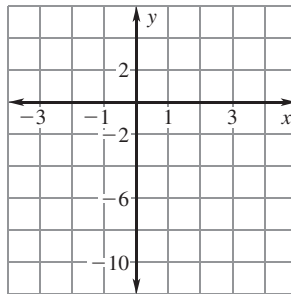

11. $y = -0.2 \cdot (0.2)^x$

LESSON 7.5

Practice B *continued*
For use with the lesson "Write and Graph Exponential Decay Functions"

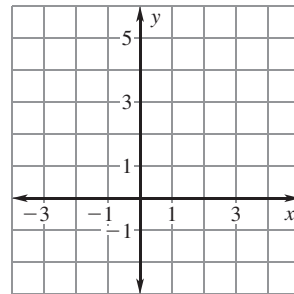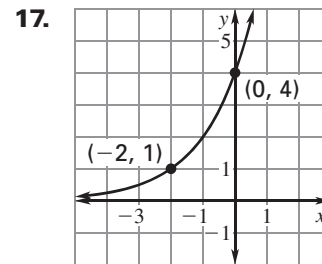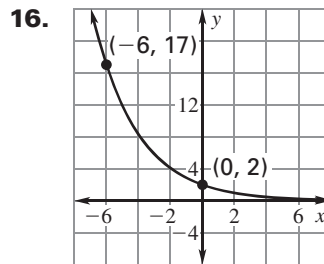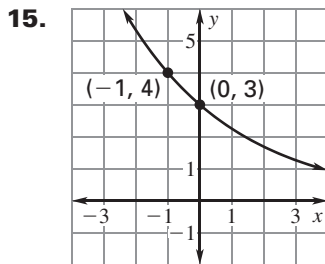**Graph the function. Compare the graph with the graph of $y = \left(\frac{1}{8}\right)^x$.**

12. $y = 2 \cdot \left(\frac{1}{8}\right)^x$

13. $y = -\left(\frac{1}{8}\right)^x$

**14.** $y = \frac{1}{4} \cdot \left(\frac{1}{8}\right)^x$

Tell whether the graph represents exponential growth or exponential decay. Then write a rule for the function.

15.

16.

17.

18. Computer Value You buy a computer for $3000. It depreciates at the rate of 20% per year. Find the value of the computer after the given number of years.

   a. 1 year

   b. 3 years

   c. 5 years

19. Unemployment Rate In 2000, the unemployment rate of a city decreased by approximately 2.1% each month. In January, the unemployment rate was 7%.

   a. Use the graph at the right to write a function that models the unemployment rate of the city over time.

   b. What was the unemployment rate in December?
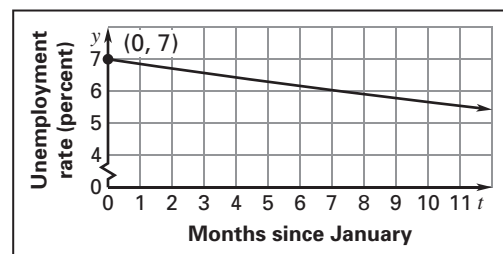
20. Indoor Water Park An indoor water park had a declining attendance from 2000 to 2005. The attendance in 2000 was 18,000. Each year for the next 5 years, the attendance decreased by 5.5%.

   a. Write a function that models the attendance since 2000.

   b. What was the attendance in 2005?