Name _____ Date _____

LESSON 8.5

# Practice B

*For use with pages 520–527*

**Write a rule for the function.**

**1.**

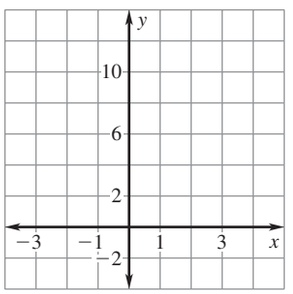
| $x$ | $-2$ | $-1$ | $0$ | $1$ | $2$ |
|---|---|---|---|---|---|
| $y$ | $\frac{1}{121}$ | $\frac{1}{11}$ | $1$ | $11$ | $121$ |

**2.**

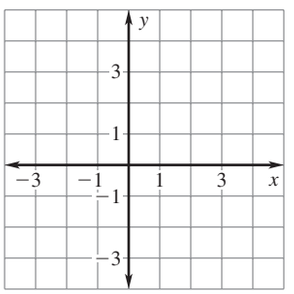
| $x$ | $-1$ | $0$ | $1$ | $2$ | $3$ |
|---|---|---|---|---|---|
| $y$ | $\frac{1}{8}$ | $\frac{1}{4}$ | $\frac{1}{2}$ | $1$ | $2$ |

**Graph the function and identify its domain and range.**

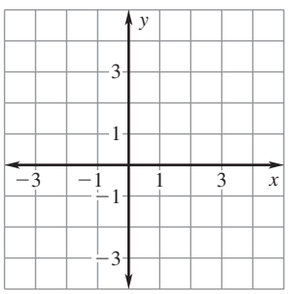
**3.** $y = 12^x$



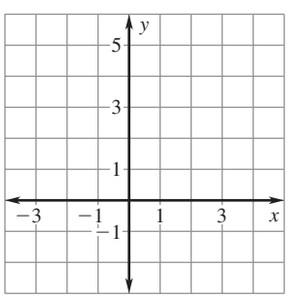

**4.** $y = (1.75)^x$



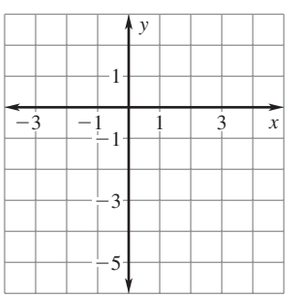

**5.** $y = (3.1)^x$



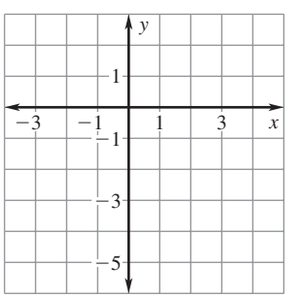

**6.** $y = \left(\frac{9}{2}\right)^x$




**7.** $y = -5^x$




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



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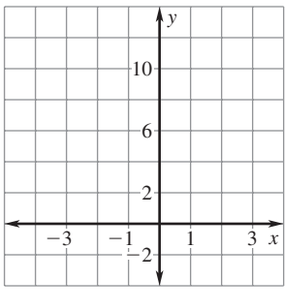
LESSON 8.5

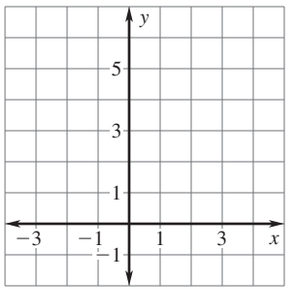
# Practice B *continued*

*For use with pages 520–527*

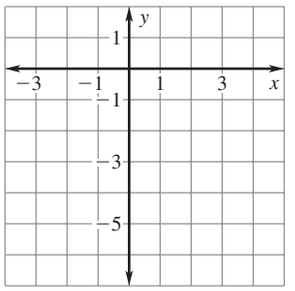
**9.** $y = 5 \cdot 2^x$




**10.** $y = 2 \cdot \left(\frac{4}{3}\right)^x$

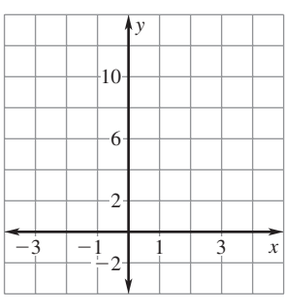



**11.** $y = -3 \cdot 2^x$

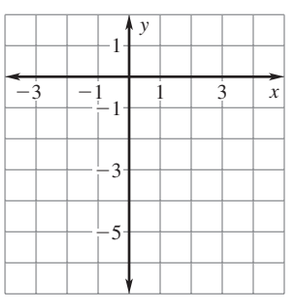



**Graph the function. Compare the graph with the graph of $y = 6^x$.**

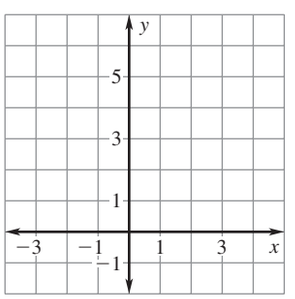
**12.** $y = 2 \cdot 6^x$




**13.** $y = -6^x$




**14.** $y = \frac{1}{2} \cdot 6^x$



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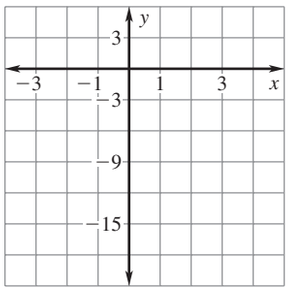
LESSON 8.5

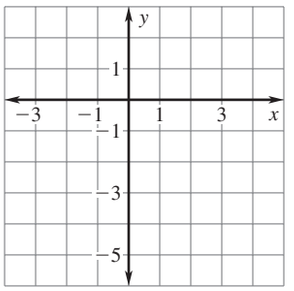
# Practice B *continued*

*For use with pages 520–527*

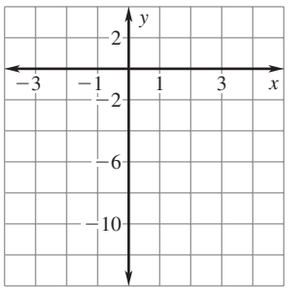
**15.** $y = -3 \cdot 6^x$




**16.** $y = -\frac{1}{4} \cdot 6^x$




**17.** $y = -\frac{3}{2} \cdot 6^x$



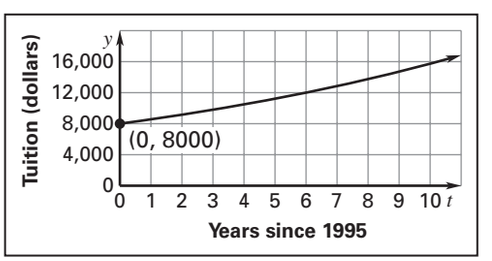

**18. Investments** You deposit $500 in a savings account that earns 2.5% interest compounded yearly. Find the balance in the account after the given amounts of time.

**a.** 1 year

**b.** 5 years

**c.** 20 years

**19. College Tuition** From 1995 to 2005, the tuition at a college increased by about 7% per year. Use the graph to write an exponential growth function that models the tuition over time.




**20. Profit** A business had $10,000 profit in 2000. Then the profit increased by 8% each year for the next 10 years.

**a.** Write a function that models the profit in dollars over time.

**b.** Use the function to predict the profit in 2009.