

**LESSON**  
**8.5****Practice A**

For use with pages 520–527

**Write a rule for the function.**

1.

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

2.

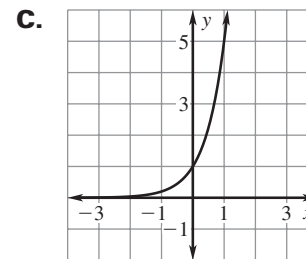
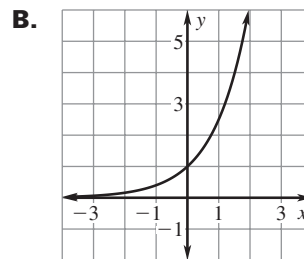
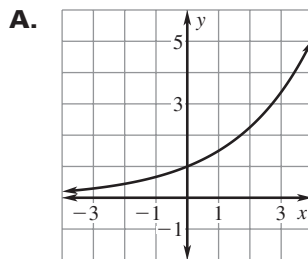
|          |               |   |   |    |     |
|----------|---------------|---|---|----|-----|
| <b>x</b> | -1            | 0 | 1 | 2  | 3   |
| <b>y</b> | $\frac{1}{5}$ | 1 | 5 | 25 | 125 |

**Match the function with its graph.**

3.  $y = 5^x$

4.  $y = (2.5)^x$

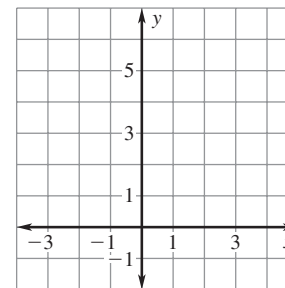
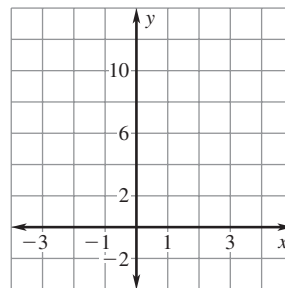
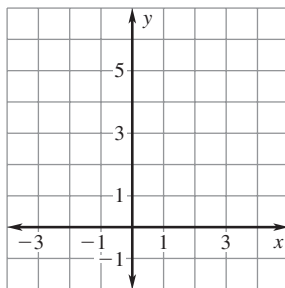
5.  $y = (1.5)^x$

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

6.  $y = 4^x$

7.  $y = 10^x$

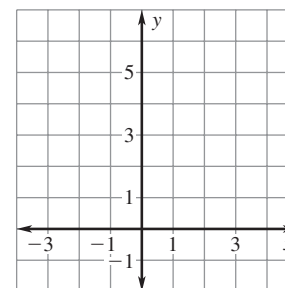
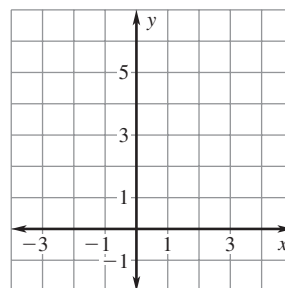
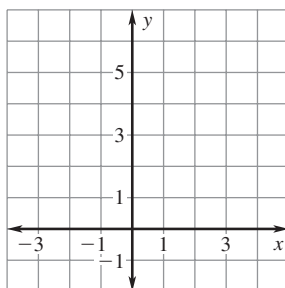
8.  $y = 6^x$



9.  $y = (3.5)^x$

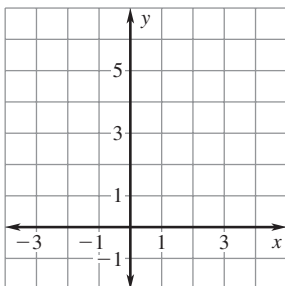
10.  $y = (1.4)^x$

11.  $y = (2.2)^x$

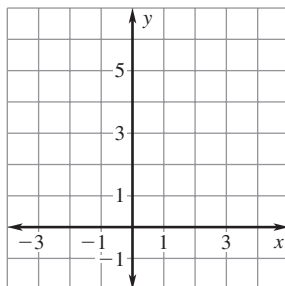


**LESSON**  
**8.5**
**Practice A** *continued*  
 For use with pages 520–527

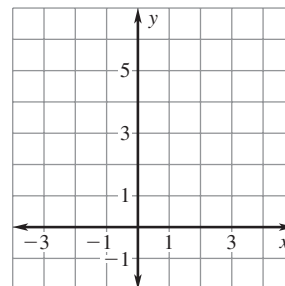
12.  $y = \left(\frac{7}{3}\right)^x$



13.  $y = \left(\frac{5}{2}\right)^x$

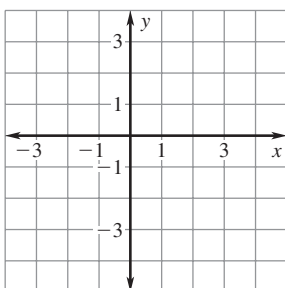


14.  $y = \left(\frac{7}{4}\right)^x$

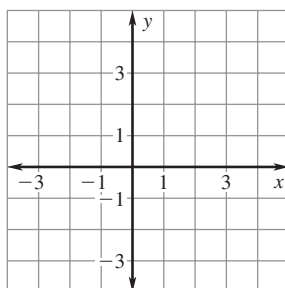


**Graph the function. Compare the graph with the graph of  $y = 4^x$ .**

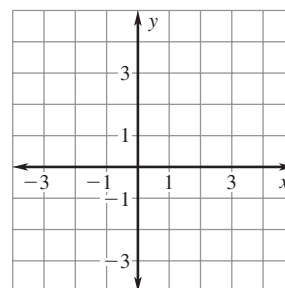
15.  $y = -4^x$



16.  $y = 3 \cdot 4^x$



17.  $y = \frac{1}{4} \cdot 4^x$



**In the growth model, identify the growth rate, the growth factor, and the initial amount.**

18.  $y = 3(1 + 0.05)^t$

19.  $y = 2(1 + 0.25)^t$

20.  $y = 0.1(1.75)^t$

**21. Investments** You deposit \$200 in a savings account that earns 3% interest compounded yearly. Find the balance in the account after the given amounts of time.

- 1 year
- 2 years
- 5 years

**22. Grade Point Average** From Chad's freshman year to his senior year, his grade point average has increased by approximately the same percentage each year. Chad's grade point average in year  $t$  can be modeled by

$$y = 2\left(\frac{5}{4}\right)^t$$

where  $t = 0$  corresponds to Chad's freshman year. Complete the table showing Chad's grade point average throughout his high school career.

|                             |   |   |   |   |
|-----------------------------|---|---|---|---|
| <b>Year, <math>t</math></b> | 0 | 1 | 2 | 3 |
| <b>Grade point average</b>  | ? | ? | ? | ? |