Name _____ Date _____

# Practice B
*For use with pages 253–259*

**Tell whether the equation represents direct variation. If so, identify the constant of variation.**

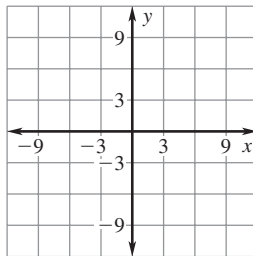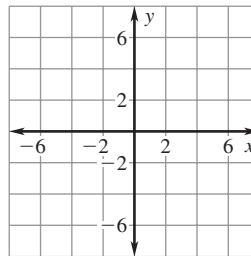**1.** $y = 8x$

**2.** $y = 2x + 1$

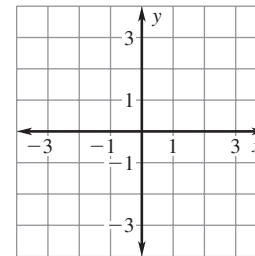**3.** $3x + y = 6$

**Graph the direct variation equation.**

**4.** $y = 9x$
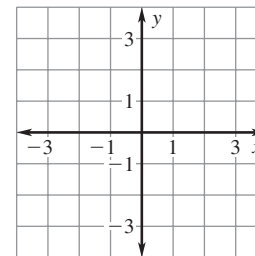


**5.** $y = -7x$



**6.** $3y = 4x$
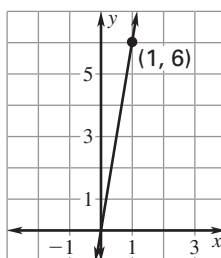


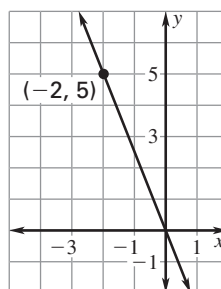**7.** $4y = -12x$
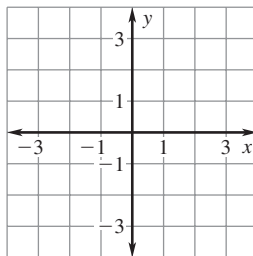


**8.** $8y = x$
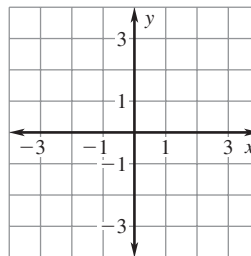


**9.** $8y = 6x$



**The graph of a direct variation equation is shown. Write the direct variation equation. Then find the value of *y* when *x* = 10.**
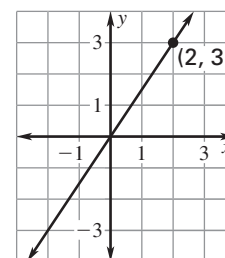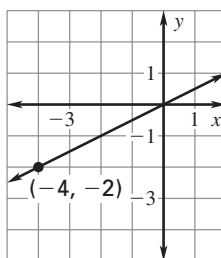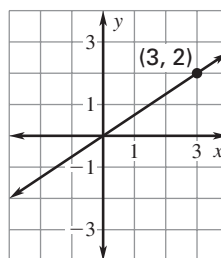
**10.**



(1, 6)

**11.**



(−2, 5)

**12.**



(2, 3)

**13.**



(−4, −2)

**14.**



(3, 2)

**15.**



(−1, 5)
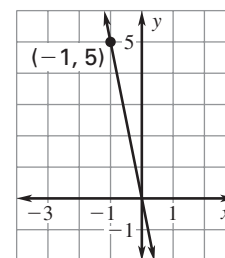
LESSON 4.6

**Practice B** *continued*
*For use with pages 253–259*

**16.**



**17.**



**18.**
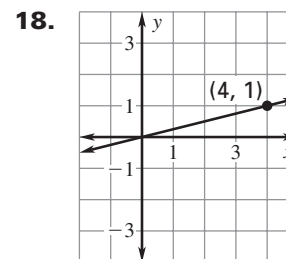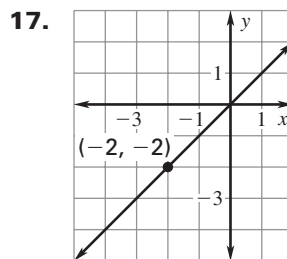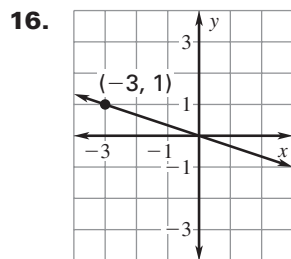


**Tell whether the table represents direct variation. If so, write the direct variation equation.**

**19.**

| x | 0.5 | 3 | −2 | 1 | −8 |
|---|---|---|---|---|---|
| y | 9 | 54 | −36 | 18 | −144 |

**20.**

| x | −5 | 3 | −2 | 10 | 20 |
|---|---|---|---|---|---|
| y | −2 | 1.2 | −0.8 | 4 | 8 |

**21.**

| x | 8 | 2 | −4 | −0.5 | 14 |
|---|---|---|---|---|---|
| y | 7 | 28 | 7 | −112 | 4 |

**22.**

| x | −0.2 | −2 | 1 | 12 | 18 |
|---|---|---|---|---|---|
| y | 30 | 3 | −6 | −0.5 | 3 |

**Given that *y* varies directly with *x*, use the specified values to write a direct variation equation that relates *x* and *y*.**

**23.** $x = 24, y = 3$

**24.** $x = -16, y = -4$

**25.** $x = 28, y = -4$

**26.** $x = 5, y = -30$

**27.** $x = \frac{1}{6}, y = 1$

**28.** $x = 8, y = -3$

**29.** $x = 6, y = 102$

**30.** $x = -8, y = 64$

**31.** $x = 15, y = 9$

**32. Hooke's Law** The force *F* required to stretch a spring varies directly with the amount the spring is stretched *s*. Eight pounds is needed to stretch a spring 8 inches.

   **a.** Write a direct variation equation that relates *F* and *s*.

   **b.** How much force is required to stretch a spring 25 inches?

**33. Basement Waterproofing** One way to keep moisture out of your basement is to paint the walls with a waterproof paint. The number *g* (of gallons) of paint you need varies directly with the area *A* of the basement. One gallon of paint covers 100 square feet.

   **a.** Write a direct variation equation that relates *g* and *A*.

   **b.** How many gallons do you need to cover 530 square feet?

   **c.** How many square feet does 8.5 gallons of paint cover?

**34. Downloading Files** The table shows the amount of time *t* (in seconds) it takes to download a file of size *s* (in kilobytes).

   **a.** *Explain* why *s* varies directly with *t*.

   **b.** Write a direct variation equation that relates *s* and *t*.

   **c.** How long will it take to download an 800-kilobyte file? Round your answer to the nearest second.

| Time, *t* (sec) | File size, *s* (kb) |
|---|---|
| 15 | 420 |
| 30 | 840 |
| 45 | 1260 |