

## 6.1 Practice B

In Exercises 1–6, tell whether  $x$  and  $y$  show *direct variation*, *inverse variation*, or *neither*.

1.  $y = \frac{12}{x}$

2.  $xy = 15$

3.  $9x = y$

4.  $y = x - 3$

5.  $\frac{y}{x} = 9$

6.  $xy = \frac{1}{3}$

In Exercises 7–10, tell whether  $x$  and  $y$  show *direct variation*, *inverse variation*, or *neither*.

7.

<b>x</b>	2.5	4	7.5	9
<b>y</b>	30	48	90	108

8.

<b>x</b>	12	5	2.5	1.5
<b>y</b>	35	84	168	280

9.

<b>x</b>	2.5	3	6	10
<b>y</b>	8	9.6	1.6	6

10.

<b>x</b>	2.5	10	16	21
<b>y</b>	672	168	105	80

In Exercises 11–13, the variables  $x$  and  $y$  vary inversely. Use the given values to write an equation relating  $x$  and  $y$ . Then find  $y$  when  $x = 3$ .

11.  $x = 4, y = -3$

12.  $x = \frac{2}{3}, y = -5$

13.  $x = -10, y = -\frac{1}{5}$

14. The variables  $x$  and  $y$  vary inversely. Describe and correct the error in writing an equation relating  $x$  and  $y$ .

$\times$ $x = \frac{1}{3}, y = 2$ $xy = a$ $\frac{1}{3} \cdot 2 = a$ $a = \frac{2}{3}$ $\text{So, } y = \frac{3x}{2}.$
--

15. The current  $y$  in a certain circuit varies inversely with the resistance  $x$  in the circuit. If the current is 8 amperes when the resistance is 20 ohms, what will the current be when the resistance increases to 25 ohms?