Chapter Review/Test

Concepts and Skills

Solve each linear equation. Show your work.

1 $2(x - 5) - 8 = 20$

2 $2x - (5 - x) = \dfrac{5}{2}$

3 $\dfrac{1}{4}(x + 2) - 2 = 0.5$

4 $4x - \dfrac{5 - 2x}{5} = \dfrac{3}{5}$

Write each repeating decimal as a fraction. Show your work.

5 $0.\overline{2}$

6 $0.9\overline{3}$

7 $0.2\overline{6}$

8 $0.3\overline{16}$

Tell whether each equation has one solution, no solution, or an infinite number of solutions. Show your work.

9 $2x + 4 = -2\left(\dfrac{1}{2} - x\right)$

10 $6y + (16 - 2y) = 4(4 + y)$

11 $4x + 5 = 2x - 7$

12 $2x + 5 = -4\left(-\dfrac{5}{4} - \dfrac{1}{2}x\right)$

Find the value of y when x = 4.

13 $4x - 2 = y + 5$

14 $x - 4y = 2$

15 $y - x = \frac{1}{3}(x + 14)$

16 $\frac{3x - 7}{y} = \frac{1}{3}$

17 $\frac{1}{7}(3x + y) = x$

18 $\frac{3y + 1}{4} = 2x$

Express x in terms of y. Find the value of x when y = −2.

19 $4x + y = 2(x + 3y)$

20 $3(x - 2y) = 4x + 5y$

21 $\frac{1}{3}x + \frac{5}{6}y = 2$

22 $\frac{0.5(x - 3)}{y} = 10$

23 $0.25(x + y) = 15 - x$

24 $\frac{y}{2} - \frac{2x + y}{5} = 7$