

# 2 Chapter Review

## Review Key Vocabulary

terminating decimal, p. 52  
repeating decimal, p. 52

rational number, p. 52  
equivalent equations, p. 72

## Review Examples and Exercises

### 2.1 Rational Numbers (pp. 50–55)

Write  $-0.14$  as a fraction in simplest form.

$$\begin{aligned} -0.14 &= -\frac{14}{100} \\ &= -\frac{7}{50} \end{aligned}$$

Write the digits after the decimal point in the numerator.

The last digit is in the hundredths place. So, use 100 in the denominator.

Simplify.

### Exercises

Write the rational number as a decimal.

1.  $-\frac{8}{15}$

2.  $\frac{5}{8}$

3.  $-\frac{13}{6}$

4.  $1\frac{7}{16}$

Write the decimal as a fraction or mixed number in simplest form.

5.  $-0.6$

6.  $-0.35$

7.  $-5.8$

8.  $24.23$

### 2.2 Adding and Subtracting Rational Numbers (pp. 56–61)

Find  $-8.18 + 3.64$ .

$$-8.18 + 3.64 = -4.54 \quad | -8.18 | > | 3.64 |. \text{ So, subtract } | 3.64 | \text{ from } | -8.18 |.$$

Use the sign of  $-8.18$ .

### Exercises

Add or subtract. Write fractions in simplest form.

9.  $-4\frac{5}{9} + \frac{8}{9}$

10.  $-\frac{5}{12} - \frac{3}{10}$

11.  $-2.53 + 4.75$

12.  $3.8 - (-7.45)$

13. **TURTLES** A turtle is  $20\frac{5}{6}$  inches below the surface of a pond. It dives to a depth of  $32\frac{1}{4}$  inches. How far did it dive?

## 2.3 Multiplying and Dividing Rational Numbers (pp. 62–67)

Find  $-4\frac{1}{6} \div 1\frac{1}{3}$ .

$$-4\frac{1}{6} \div 1\frac{1}{3} = -\frac{25}{6} \div \frac{4}{3}$$

Write mixed numbers as improper fractions.

$$= \frac{-25}{6} \cdot \frac{3}{4}$$

Multiply by the reciprocal of  $\frac{4}{3}$ .

$$= \frac{-25 \cdot 3}{6 \cdot 4}$$

Multiply the numerators and the denominators.

$$= \frac{-25}{8}, \text{ or } -3\frac{1}{8}$$

Simplify.

### Exercises

Multiply or divide. Write fractions in simplest form.

14.  $-\frac{4}{9}\left(-\frac{7}{9}\right)$

15.  $\frac{9}{10} \div \left(-\frac{6}{5}\right)$

16.  $\frac{8}{15}\left(-\frac{2}{3}\right)$

17.  $-\frac{4}{11} \div \frac{2}{7}$

18.  $-5.9(-9.7)$

19.  $6.4 \div (-3.2)$

20.  $4.5(-5.26)$

21.  $-15.4 \div (-2.5)$

22. **SUNKEN SHIP** The elevation of a sunken ship is  $-120$  feet. Your elevation is  $\frac{5}{8}$  of the ship's elevation. What is your elevation?

## 2.4 Solving Equations Using Addition or Subtraction (pp. 70–75)

Solve  $x - 9 = -6$ .

$$x - 9 = -6$$

Write the equation.

$$\underline{+9} \quad \underline{+9}$$

Add 9 to each side.

$$x = 3$$

Simplify.

### Exercises

Solve the equation. Check your solution.

23.  $p - 3 = -4$

24.  $6 + q = 1$

25.  $-2 + j = -22$

26.  $b - 19 = -11$

27.  $n + \frac{3}{4} = \frac{1}{4}$

28.  $v - \frac{5}{6} = -\frac{7}{8}$

29.  $t - 3.7 = 1.2$

30.  $\ell + 15.2 = -4.5$

31. **GIFT CARD** A shirt costs \$24.99. After using a gift card as a partial payment, you still owe \$9.99. What is the value of the gift card?

## 2.5 Solving Equations Using Multiplication or Division (pp. 76–81)

Solve  $\frac{x}{5} = -7$ .

$$\frac{x}{5} = -7 \quad \text{Write the equation.}$$

$$5 \cdot \frac{x}{5} = 5 \cdot (-7) \quad \text{Multiply each side by 5.}$$

$$x = -35 \quad \text{Simplify.}$$

### Exercises

Solve the equation. Check your solution.

32.  $\frac{x}{3} = -8$

33.  $-7 = \frac{y}{7}$

34.  $-\frac{z}{4} = -\frac{3}{4}$

35.  $-\frac{w}{20} = -2.5$

36.  $4x = -8$

37.  $-10 = 2y$

38.  $-5.4z = -32.4$

39.  $-6.8w = 3.4$

40. **TEMPERATURE** The mean temperature change is  $-3.2^\circ\text{F}$  per day for five days. What is the total change over the five-day period?

## 2.6 Solving Two-Step Equations (pp. 82–87)

Solve  $\frac{x}{5} + \frac{7}{10} = -\frac{3}{10}$ .

$$\frac{x}{5} + \frac{7}{10} = -\frac{3}{10} \quad \text{Write the equation.}$$

$$\frac{x}{5} = -1 \quad \text{Subtract } \frac{7}{10} \text{ from each side.}$$

$$x = -5 \quad \text{Multiply each side by 5.}$$

### Exercises

Solve the equation. Check your solution.

41.  $-2c + 6 = -8$

42.  $3(3w - 4) = -20$

43.  $\frac{w}{6} + \frac{5}{8} = -1\frac{3}{8}$

44.  $-3x - 4.6 = 5.9$

45. **EROSION** The floor of a canyon has an elevation of  $-14.5$  feet. Erosion causes the elevation to change by  $-1.5$  feet per year. How many years will it take for the canyon floor to have an elevation of  $-31$  feet?