## *Diagnostic Test*

### 1.1 Find the answers.

**1.** $23.6 + 5.924$

**2.**
$$\begin{array}{r} 56,000 \\ -\ 18,367 \\ \hline \end{array}$$

**3.** $498.1 - 144.729$

**4.**
$$\begin{array}{r} 628 \\ \times\ 93 \\ \hline \end{array}$$

**5.**
$$\begin{array}{r} 72.19 \\ \times\ 0.64 \\ \hline \end{array}$$

### 1.1 Divide. Write each remainder as indicated.

**6.** round to the tenths

$45\overline{)33,868.8}$

**7.** as a fraction

$24\overline{)90}$

**8.** as a terminating decimal

$4.8\overline{)0.6}$

### 1.3–1.4 Factor each number. Write the prime factorization using exponents.

**9.** 175

**10.** 297

**11.** 600

**1.5 Find the (a) GCF and (b) LCM for each group of numbers.**

**12.** 75 and 90

    **(a)** GCF = _____

    **(b)** LCM = _____

**13.** 12, 20, and 36

    **(a)** GCF = _____

    **(b)** LCM = _____

**1.6 Write an equivalent fraction with the given denominators for each fraction.**

**14.** $\dfrac{2}{9} = \dfrac{?}{27}$

**15.** $\dfrac{33}{7} = \dfrac{?}{14}$

**16.** $\dfrac{13}{21} = \dfrac{?}{84}$

**1.6 Reduce each fraction to lowest terms.**

**17.** $\dfrac{22}{50}$

**18.** $\dfrac{35}{65}$

**19.** $\dfrac{45}{108}$

**1.7 Express each relationship using a reduced ratio.**

**20.** Jared's homework has 12 short answer questions and 4 word problems. What is the ratio of _____?

    **(a)** word problems to short answer

    **(b)** short answer to word problems

    **(c)** short answer to total problems

**21.** A cooler contains 8 water bottles and 30 sodas. What is the ratio of _____?

    **(a)** water bottles to sodas

    **(b)** sodas to water bottles

    **(c)** sodas to total beverages

**1.7 Solve.**

**22.** $\dfrac{6}{11} = \dfrac{x}{33}$

**23.** $\dfrac{30}{18} = \dfrac{5}{x}$

**24.** $\dfrac{42}{x} = \dfrac{21}{45}$

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**1.8 Find the answers.**

**25.**
$$4\tfrac{7}{6}$$
$$+8\tfrac{1}{9}$$

**26.**
$$12\tfrac{2}{5}$$
$$-3\tfrac{3}{4}$$

**27.** $6\tfrac{1}{8} \times 3\tfrac{3}{7}$

**28.**
$$\dfrac{\tfrac{9}{12}}{\tfrac{5}{24}}$$

**1.9 Write each fraction as a decimal.**

**29.** $\dfrac{7}{8}$

**30.** $\dfrac{3}{20}$

**31.** $\dfrac{2}{9}$

**1.10 Express each fraction as a percent.**

**32.** $\dfrac{11}{20}$

**33.** $\dfrac{1}{4}$

**34.** $\dfrac{3}{8}$

**1.10 Express each percent as a decimal.**

**35.** 34%

**36.** 435%

**37.** $\tfrac{1}{2}$%

**1.10 Express each decimal as a percent.**

**38.** 0.0037

**39.** 0.243

**40.** 1.68

**1.11 Find the answers.**

**41.** What is 26% of 80?

**42.** 5 is what percent of 40?

**43.** 12 is 60% of what number?

### 1.12 Solve.

**44.** A $325 couch was on sale for 30% off. What was **(a)** the discount and **(b)** the sale price?

**45.** Last month a clothing store sold 50 shirts. If they want to sell 24% more shirts this month then they did last month, how many shirts do they need to sell this month?

**46.** Last Saturday, 50 people came to watch the junior high basketball game. If 30 people came to watch this Saturday, what is the percent of change? Is this an increase or a decrease?