NAME _____

DATE _____

ACCEPTABLE SCORE 38

YOUR SCORE _____

PRETEST

Complete the Decimals Pretest. A score of 38 out of 40 indicates an acceptable understanding of and competency in basic calculations involving decimals. You may skip to the Percents Pretest on p. 49. However, if you score 37 or below, completion of Chapter 2, Decimals, will be helpful for your continued success in the calculation of drug dosages.

DIRECTIONS: Write the following numbers in words.

1. 0.04 _____
2. 1.6 _____
3. 16.06734 _____
4. 1.015 _____
5. 0.009 _____

DIRECTIONS: Circle the decimal with the *least value*.

6. 0.2, 0.25, 0.025, 0.02
7. 0.4, 0.48, 0.04, 0.004
8. 1.6, 1.64, 1.682, 1.69
9. 2.8, 2.82, 2.082, 2.822
10. 0.3, 0.33, 0.003, 0.033

DIRECTIONS: Perform the indicated calculations.

11. 6.8 + 2.986 + 14.7 + 0.89 = _____
12. 141.71 + 84.98 + 9.98 + 87.63 = _____
13. 1006.48 + 0.008 + 6.2 + 0.179 = _____
14. 47.21 + 48.496 + 0.2976 + 54.67 = _____
15. 5.971 + 63.1 + 8.264 + 7.23 = _____
16. 2.176 − 1.098 = _____

17. $2.006 - 0.998 =$ _____ **18.** $836.2 - 76.8 =$ _____ **19.** $100.3 - 98.6 =$ _____

20. $12.6 - 1.654 =$ _____ **21.** $0.63 \times 0.09 =$ _____ **22.** $41.545 \times 0.16 =$ _____

23. $5.25 \times 0.37 =$ _____ **24.** $44.08 \times 0.67 =$ _____ **25.** $56.7 \times 3.29 =$ _____

26. $0.89 \div 4.32 =$ _____ **27.** $1.436 \div 0.08 =$ _____ **28.** $0.689 \div 62.8 =$ _____

29. $12.54 \div 0.02 =$ _____ **30.** $23 \div 1236 =$ _____

DIRECTIONS: Change the following decimal fractions to proper fractions.

31. 0.008 = _____ **32.** 0.25 = _____ **33.** 0.322 = _____ **34.** 0.004 = _____

35. 0.34 = _____

DIRECTIONS: Change the following proper fractions to decimal fractions.

36. $\frac{3}{5}$ = _____ **37.** $\frac{2}{3}$ = _____ **38.** $\frac{3}{500}$ = _____ **39.** $\frac{7}{20}$ = _____

40. $\frac{5}{8}$ = _____

ANSWERS ON PP. 502–503.

Decimals

LEARNING OBJECTIVES

On completion of the materials provided in this chapter, you will be able to perform computations accurately by mastering the following mathematical concepts:

1. Reading and writing decimal numbers
2. Determining the value of decimal fractions
3. Adding, subtracting, multiplying, and dividing decimals
4. Rounding decimal fractions to an indicated place value
5. Multiplying and dividing decimals by 10 or a power of 10
6. Multiplying and dividing decimals by 0.1 or a multiple of 0.1
7. Converting a decimal fraction to a proper fraction
8. Converting a proper fraction to a decimal fraction

Study the introductory material for decimals. The processes for the calculation of decimal problems are listed in steps. Memorize the steps for each calculation before beginning the work sheet. Complete the work sheet at the end of this chapter, which provides for extensive practice in the manipulation of decimals. Check your answers. If you have difficulties, go back and review the steps for that type of calculation. When you feel ready to evaluate your learning, take the first posttest. Check your answers. An acceptable score as indicated on the posttest signifies that you are ready for the next chapter. An unacceptable score signifies a need for further study before you take the second posttest.

Decimals are used in the metric system of measurement. **Nurses use the metric system in the calculation of drug dosages. Therefore it is essential for nurses to be able to manipulate decimals easily and accurately.**

Each **decimal fraction** consists of a numerator that is expressed in numerals; a decimal point placed so that it designates the value of the denominator; and the denominator, which is understood to be 10 or some power of 10. **In writing a decimal fraction, always place a zero to the left of the decimal point so that the decimal point can readily be seen. The omission of the zero may result in a critical medication error.** Some examples are as follows:

Fraction	Decimal fraction
$\frac{7}{10}$	0.7
$\frac{13}{100}$	0.13
$\frac{227}{1000}$	0.227

Decimal numbers include an integer (or whole number), a decimal point, and a decimal fraction. The value of the combined integer and decimal fraction is determined by the placement of the

decimal point. Whole numbers are written to the *left* of the decimal point, and decimal fractions to the *right*. Figure 2-1 illustrates the place occupied by the numeral that has the value indicated.

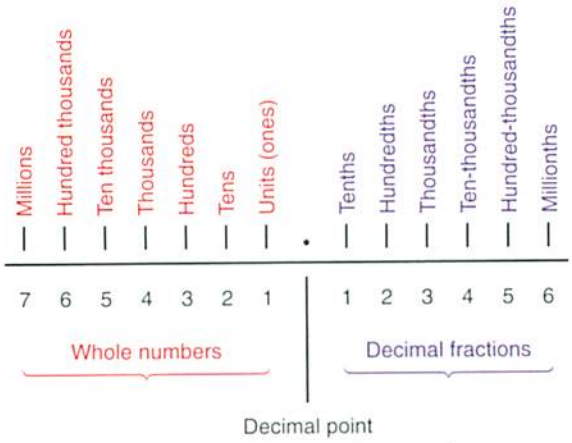

FIGURE 2-1 Decimal place values.

READING DECIMAL NUMBERS

The reading of a decimal number is determined by the place value of the integers and decimal fractions.

1. Read the whole number.
2. Read the decimal point as "and" or "point."
3. Read the decimal fraction.

EXAMPLES:	0.4	four tenths
	0.86	eighty-six hundredths
	3.659	three and six hundred fifty-nine thousandths
	182.0012	one hundred eighty-two and twelve ten-thousandths
	9.47735	nine and forty-seven thousand seven hundred thirty-five hundred-thousandths

DETERMINING THE VALUES OF DECIMAL FRACTIONS

1. Place the numbers in a vertical column with the decimal points in a vertical line.
2. Add zeros on the right in the decimal fractions to make columns even.
3. The largest number in a column to the right of the decimal point has the *greatest* value.
4. If two numbers in a column are of equal value, examine the next column to the right, and so on.
5. The smallest number in the column to the right of the decimal point has the *least* value. If two numbers in the first column are of equal value, examine the second column to the right, and so on.

EXAMPLE 1: Of the following fractions (0.623, 0.841, 0.0096, 0.432), which has the greatest value? the least value?

0.6320

0.8410

0.0096

0.4320

0.841 has the greatest value; 0.0096 has the least value.

NOTE: In mixed numbers the values of both the integer and the fraction are considered.

EXAMPLE 2: Which decimal number (0.4, 0.25, 1.2, 1.002) has the greatest value? the least value?

0.400

0.250

1.200

1.002

1.2 has the greatest value; 0.25 has the least value.

ADDITION AND SUBTRACTION OF DECIMALS

1. Write the numerals in a vertical column with the decimal points in a straight line.
2. Add zeros as needed to complete the columns.
3. Add or subtract each column as indicated by the symbol.
4. Place the decimal point in the sum or difference directly below the decimal points in the column.
5. Place a zero to the left of the decimal point in a decimal fraction.

EXAMPLE 1: Add: $14.8 + 6.29 + 3.028$

$$\begin{array}{r} 14.800 \\ 6.290 \\ +\ 3.028 \\ \hline 24.118 \end{array}$$

EXAMPLE 2: Subtract: $5.163 - 4.98$

$$\begin{array}{r} 5.163 \\ -\ 4.980 \\ \hline 0.183 \end{array}$$

MULTIPLICATION OF DECIMALS

1. Place the shorter group of numbers under the longer group of numbers.
2. Multiply.
3. Add the number of places to the right of the decimal point in the **multiplicand** and the **multiplier** (i.e., the numbers being multiplied). The sum determines the placement of the decimal point within the product.
4. Count from right to left the value of the sum and place the decimal point.

EXAMPLE 1: 0.19×0.24

$$\begin{array}{rl} 0.19 & \text{two place values} \\ \times\ 0.24 & \text{two place values} \\ \hline 076 & \\ 038 & \\ 000 & \\ \hline 0.0456 & \text{four place values} \end{array}$$

EXAMPLE 2: 0.459×0.52

$$\begin{array}{rl} 0.459 & \text{three place values} \\ \times\ 0.52 & \text{two place values} \\ \hline 0918 & \\ 2295 & \\ 0000 & \\ \hline 0.23868 & \text{five place values} \end{array}$$

EXAMPLE 3: 8.265×4.36

$$\begin{array}{rl} 8.265 & \text{three place values} \\ \times\ 4.36 & \text{two place values} \\ \hline 49590 & \\ 24795 & \\ 33060 & \\ \hline 36.03540 & \text{five place values} \end{array}$$

EXAMPLE 4: 160.41×3.527

$$\begin{array}{rl} 160.41 & \text{two place values} \\ \times\ 3.527 & \text{three place values} \\ \hline 112287 & \\ 32082 & \\ 80205 & \\ 48123 & \\ \hline 565.76607 & \text{five place values} \end{array}$$

Multiplying a Decimal by 10 or a Power of 10 (100, 1000, 10,000, 100,000)

1. Move the decimal point to the right the *same number of places as there are zeros in the multiplier.*
2. Zeros may be added as indicated.

EXAMPLE 1: $0.132 \times 10 = 1.32$

EXAMPLE 2: $0.053 \times 100 = 5.3$

EXAMPLE 3: $2.64 \times 1000 = 2640$

EXAMPLE 4: $49.6 \times 10{,}000 = 496{,}000$

Multiplying a Whole Number or Decimal by 0.1 or a Multiple of 0.1 (0.01, 0.001, 0.0001, 0.00001)

1. Move the decimal point to the left the *same number of spaces as there are numbers to the right of the decimal point in the multiplier.*
2. Zeros may be added as indicated.

EXAMPLE 1: $354.86 \times 0.0001 = 0.035486$

EXAMPLE 2: $0.729 \times 0.1 = 0.0729$

EXAMPLE 3: $12.73 \times 0.01 = 0.1273$

EXAMPLE 4: $5.752 \times 0.001 = 0.005752$

ROUNDING A DECIMAL FRACTION

1. Find the number to the right of the place value desired.
2. If the number is 5, 6, 7, 8, or 9, add 1 to the number in the place value desired and drop the rest of the numbers.
3. If the number is 0, 1, 2, 3, or 4, remove all numbers to the right of the desired place value.

EXAMPLE 1: Round the following decimal fractions to the nearest tenth.

a. 0.268

0.2)68 — 6 is the number to the right of the tenth place. Therefore 1 should be added to the number 2 and the 68 dropped.

0.3 — correct answer

b. 4.374

4.3)74 — 7 is the number to the right of the tenth place. Therefore 1 should be added to the number 3 and the 74 dropped.

4.4 — correct answer

c. 5.723

5.7)23 — 2 is the number to the right of the tenth place. Therefore all numbers to the right of the tenth place should be removed.

5.7 — correct answer

EXAMPLE 2: Round the following decimal fractions to the nearest hundredth.

a. 0.876

0.87)6 — 6 is the number to the right of the hundredths place. Therefore 1 should be added to the number 7 and the 6 dropped.

0.88 — correct answer

b. 2.3249

2.32)49 — 4 is the number to the right of the hundredths place. Therefore all numbers to the right of the hundredths place should be removed.

2.32 — correct answer

EXAMPLE 3: Round the following decimal fractions to the nearest thousandth.

a. 3.1325

3.132)5 — 5 is the number to the right of the thousandths place. Therefore 1 should be added to the number 2 and the 5 dropped.

3.133 — correct answer

b. 0.4674

0.467)4 — 4 is the number to the right of the thousandths place. Therefore all numbers to the right of the thousandths place should be removed.

0.467 — correct answer

Rounding numbers helps to estimate values, compare values, have more realistic and workable numbers, and spot errors. Decimal fractions may be rounded to any designated place value.

DIVISION OF DECIMALS

1. Place a caret (∧) to the right of the last number in the divisor, signifying the movement of the decimal point that will make the divisor a whole number.
2. Count the number of spaces that the decimal point is moved in the divisor.
3. Count to the right an equal number of spaces in the dividend and place a caret to signify the movement of the decimal.
4. Place a decimal point on the quotient line directly above the caret.
5. Divide, extending the decimal fraction three places to the right of the decimal point.
6. Zeros may be added as indicated to extend the decimal fraction dividend.
7. Round the quotient to the nearest hundredth.

EXAMPLE 1: $8.326 \div 1.062$

$$
\begin{array}{r}
7.839 \text{ or } 7.84 \\
1.062\wedge\overline{)8.326\wedge 000} \\
\underline{7\,434} \\
892\,0 \\
\underline{849\,6} \\
42\,40 \\
\underline{31\,86} \\
10\,540 \\
\underline{9\,558}
\end{array}
$$

EXAMPLE 2: $386 \div 719$

$$
\begin{array}{r}
0.536 \text{ or } 0.54 \\
719\overline{)386.000} \\
\underline{359\,5} \\
26\,50 \\
\underline{21\,57} \\
4\,930 \\
\underline{4\,314}
\end{array}
$$

NOTE: The decimal fraction is emphasized by the placement of a zero to the left of the decimal point.

Dividing a Decimal by 10 or a Multiple of 10 (100, 1000, 10,000, 100,000)

1. Move the decimal point to the left the same number of places as there are zeros in the divisor.
2. Zeros may be added as indicated.

EXAMPLE 1: $6.41 \div 10 = 0.641$

EXAMPLE 2: $358.0 \div 100 = 3.58$

Dividing a Whole Number or a Decimal Fraction by 0.1 or a Multiple of 0.1 (0.01, 0.001, 0.0001, 0.00001)

1. Move the decimal point to the right as many places as there are numbers in the divisor.
2. Zeros may be added as indicated.

EXAMPLE 1: $5.897 \div 0.01 = 589.7$

EXAMPLE 2: $46.31 \div 0.001 = 46{,}310$

CONVERSION

Converting a Decimal Fraction to a Proper Fraction

1. Remove the decimal point and the zero preceding it.
2. The numerals are the numerator.
3. The placement of the decimal point indicates what the denominator will be.
4. Reduce to lowest terms.

EXAMPLE 1: 0.3

$$\frac{3}{10}$$

EXAMPLE 2: 0.86

$$\frac{86}{100} = \frac{43}{50}$$

EXAMPLE 3: 0.375

$$\frac{375}{1000} = \frac{3}{8}$$

Converting a Proper Fraction to a Decimal Fraction

1. Divide the numerator by the denominator.
2. Extend the decimal the desired number of places (often three).
3. Place a zero to the left of the decimal point in a decimal fraction.

EXAMPLE 1: $\frac{4}{5}$

$$\begin{array}{r} 0.8 \\ 5\overline{)4.0} \\ \underline{4\ 0} \\ \end{array}$$

$\frac{4}{5} = 0.8$

EXAMPLE 2: $\frac{7}{8}$

$$\begin{array}{r} 0.875 \\ 8\overline{)7.000} \\ \underline{6\ 4} \\ 60 \\ \underline{56} \\ 40 \\ \underline{40} \\ \end{array}$$

$\frac{7}{8} = 0.875$

WORK SHEET

DIRECTIONS: Write the following numbers in words.

1. 0.2 _____
2. 9.68 _____
3. 0.0003 _____
4. 1968.342 _____
5. 0.02 _____

DIRECTIONS: Circle the decimal numbers with the *greatest value*.

1. 0.2, 0.15, 0.1, 0.25
2. 0.4, 0.45, 0.04, 0.042
3. 0.9, 0.09, 0.95, 0.98
4. 0.5, 0.065, 0.58, 0.68
5. 1.8, 1.08, 1.18, 1.468
6. 7.4, 7.42, 7.423, 7.44

DIRECTIONS: Circle the decimal numbers with the *least value*.

1. 0.6, 0.66, 0.666, 0.6666
2. 0.3, 0.03, 0.003, 0.0003
3. 1.2, 1.22, 1.022, 1.0022
4. 0.8, 0.08, 0.868, 0.859
5. 0.75, 0.07, 0.007, 0.0075
6. 3.015, 3.1, 3.006, 3.02

DIRECTIONS: Add the following decimal problems.

1. 1.080 + 31.2 + 0.065 + 9.41 = _____
2. 2.2 + 355.6 + 8.125 + 6.75 = _____
3. 24.684 + 5.3697 + 8.025 + 2.9 = _____
4. 18.95 + 1.903 + 8.82 + 9.4 = _____
5. 56.93 + 765.7 + 64.882 + 7.33 = _____
6. 0.3 + 0.874 + 2.763 + 63.2 = _____

7. $13.5 + 1.023 + 8.83 + 3.267 =$ _____

8. $3.6 + 8.25 + 2.05 + 24 =$ _____

9. $0.6 + 0.985 + 1.432 + 52.1 =$ _____

10. $3.75 + 0.718 + 136.95 + 0.8 =$ _____

DIRECTIONS: Subtract the following decimal problems.

1. $1321.52 - 63.65 =$ _____

2. $4.745 - 2.896 =$ _____

3. $1.8 - 1.09 =$ _____

4. $250.7 - 75.896 =$ _____

5. $24.186 - 16.768 =$ _____

6. $6.33 - 2.186 =$ _____

7. $0.486 - 0.025 =$ _____

8. $1 - 0.012 =$ _____

9. $63 - 0.978 =$ _____

10. $300 - 12.629 =$ _____

DIRECTIONS: Multiply the following decimal problems.

1. $1.3 \times 12.5 =$ _____

2. $127 \times 4.8 =$ _____

3. $1.69 \times 30.8 =$ _____

4. $9.08 \times 6.18 =$ _____

5. $52.4 \times 0.8 =$ _____

6. $420 \times 0.08 =$ _____

7. $2.3 \times 45.21 =$ _____ 8. $7.46 \times 54.83 =$ _____ 9. $1.19 \times 0.127 =$ _____

10. $7.85 \times 3.006 =$ _____

DIRECTIONS: Multiply the following numbers by 10 by moving the decimal point.

1. 0.09 _____ 2. 0.2 _____ 3. 0.18 _____
4. 0.3 _____ 5. 0.625 _____ 6. 2.33 _____

DIRECTIONS: Multiply the following numbers by 100 by moving the decimal point.

1. 0.023 _____ 2. 1.5 _____ 3. 0.004 _____
4. 0.125 _____ 5. 8.65 _____ 6. 76.4 _____

DIRECTIONS: Multiply the following numbers by 1000 by moving the decimal point.

1. 0.2 _____ 2. 0.005 _____ 3. 0.187 _____
4. 9.65 _____ 5. 0.46 _____ 6. 0.489 _____

DIRECTIONS: Multiply the following numbers by 0.1 by moving the decimal point.

1. 30.0 _____ 2. 0.69 _____ 3. 1.7 _____
4. 0.95 _____ 5. 0.138 _____ 6. 5.67 _____

DIRECTIONS: Multiply the following numbers by 0.01 by moving the decimal point.

1. 0.26 _____ 2. 90.8 _____ 3. 5.5 _____
4. 11.2 _____ 5. 0.875 _____ 6. 63.3 _____

DIRECTIONS: Multiply the following numbers by 0.001 by moving the decimal point.

1. 56.0 _____ 2. 12.55 _____ 3. 126.5 _____
4. 33.3 _____ 5. 9.684 _____ 6. 241 _____

DIRECTIONS: Round the following decimal fractions to the nearest tenth.

1. 0.33 _____
2. 0.913 _____
3. 2.359 _____
4. 0.66 _____
5. 58.36 _____
6. 8.092 _____

DIRECTIONS: Round the following decimal fractions to the nearest hundredth.

1. 2.555 _____
2. 4.275 _____
3. 0.284 _____
4. 3.923 _____
5. 6.534 _____
6. 2.988 _____

DIRECTIONS: Round the following decimal fractions to the nearest thousandth.

1. 27.86314 _____
2. 5.9246 _____
3. 2.1574 _____
4. 0.8493 _____
5. 321.0869 _____
6. 455.7682 _____

DIRECTIONS: Divide. Round the quotient to the nearest hundredth.

1. $7.02 \div 6 =$ _____
2. $124.2 \div 0.03 =$ _____
3. $5.46 \div 0.7 =$ _____
4. $24 \div 0.06 =$ _____
5. $24 \div 1500 =$ _____
6. $4.6 \div 35.362 =$ _____
7. $4.13 \div 0.05 =$ _____
8. $9.08 \div 2.006 =$ _____
9. $63 \div 132.3 =$ _____
10. $21.25 \div 8.43 =$ _____

DIRECTIONS: Divide the following numbers by 10 by moving the decimal point.

1. 6.0 _____
2. 0.2 _____
3. 9.8 _____
4. 0.05 _____
5. 0.375 _____
6. 0.99 _____

DIRECTIONS: Divide the following numbers by 100 by moving the decimal point.

1. 0.7 _____
2. 8.11 _____
3. 700.0 _____
4. 0.19 _____
5. 12.0 _____
6. 30.2 _____

DIRECTIONS: Divide the following numbers by 1000 by moving the decimal point.

1. 1.8 _____
2. 360.0 _____
3. 0.25 _____
4. 54.6 _____
5. 7.5 _____
6. 7140 _____

DIRECTIONS: Divide the following numbers by 0.1 by moving the decimal point.

1. 2.8 _____
2. 0.1 _____
3. 0.65 _____
4. 0.987 _____
5. 15.0 _____
6. 8.25 _____

DIRECTIONS: Divide the following numbers by 0.01 by moving the decimal point.

1. 36.0 _____
2. 0.16 _____
3. 0.48 _____
4. 9.59 _____
5. 0.8 _____
6. 0.097 _____

DIRECTIONS: Divide the following numbers by 0.001 by moving the decimal point.

1. 6.2 _____
2. 839.0 _____
3. 5.0 _____
4. 0.86 _____
5. 13.8 _____
6. 0.0156 _____

DIRECTIONS: Change the following decimal fractions to proper fractions.

1. 0.06 _____
2. 0.8 _____
3. 0.68 _____
4. 0.0025 _____
5. 0.625 _____
6. 0.25 _____
7. 0.64 _____
8. 0.005 _____
9. 0.01 _____
10. 0.044 _____

DIRECTIONS: Change the following proper fractions to decimal fractions.

1. $\frac{1}{8}$ _____

2. $\frac{2}{3}$ _____

3. $\frac{16}{25}$ _____

4. $\frac{3}{5}$ _____

5. $\frac{8}{200}$ _____

6. $\frac{1}{3}$ _____

7. $\frac{4}{5}$ _____

8. $\frac{7}{8}$ _____

9. $\frac{1}{200}$ _____

10. $\frac{5}{6}$ _____

ANSWERS ON PP. 503–504.

NAME _____

DATE _____

ACCEPTABLE SCORE 33

YOUR SCORE _____

POSTTEST 1

DIRECTIONS: Write the following numbers in words.

1. 634.18 _____

_____

2. 0.9 _____

3. 64.231 _____

_____

DIRECTIONS: Circle the decimal fractions with the *greatest value*.

4. 0.1, 0.01, 0.15, 0.015

5. 0.666, 0.068, 0.006, 0.66

DIRECTIONS: Perform the indicated calculations.

6. 1.342 + 0.987 + 8.062 + 44.269 = _____

7. 0.6 + 0.45 + 2.9 + 4.94 = _____

8. 3.004 + 0.848 + 0.9 + 1.6 = _____

9. 2.875 + 0.75 + 0.094 + 2.385 = _____

10. 1981.62 + 4.876 + 146.35 + 19.78 = _____

11. 1 − 0.661 = _____

12. 2.46 − 1.0068 = _____

13. 844.6 − 521.52 = _____

14. 43.69 − 0.0823 = _____

15. $0.9 - 0.689 =$ _____ **16.** $72.8 \times 9.649 =$ _____ **17.** $1.58 \times 0.088 =$ _____

18. $360 \times 0.45 =$ _____ **19.** $26.2 \times 1.69 =$ _____ **20.** $1.5 \times 0.39 =$ _____

21. $268.8 \div 16 =$ _____ **22.** $8.89 \div 0.006 =$ _____ **23.** $12.54 \div 0.02 =$ _____

24. $56.4 \div 40 =$ _____ **25.** $165.9 \div 3.006 =$ _____

DIRECTIONS: Change the following decimal fractions to proper fractions.

26. 0.09 _____ **27.** 0.0025 _____ **28.** 0.375 _____ **29.** 0.4 _____

30. 0.006 _____

DIRECTIONS: Change the following proper fractions to decimal fractions.

31. $5/7$ _____ **32.** $1/100$ _____ **33.** $1/250$ _____ **34.** $1/8$ _____

35. $3/32$ _____

ANSWERS ON PP. 504–505.

NAME _____

DATE _____

ACCEPTABLE SCORE 33

YOUR SCORE _____

POSTTEST 2

DIRECTIONS: Write the following numbers in words.

1. 0.516 _____

_____

2. 4.0002 _____

3. 123.69 _____

_____

DIRECTIONS: Circle the decimal with the *greatest value.*

4. 0.04, 0.45, 0.8, 0.86

5. 1.202, 1.22, 1.2, 1.222

DIRECTIONS: Perform the indicated calculations.

6. $1.2791 + 327.8 + 123.07 + 4.67 =$ _____

7. $6.95 + 0.8 + 0.625 + 7.68 =$ _____

8. $19.29 + 3.5 + 5.869 + 4.55 =$ _____

9. $1.5 + 6.3 + 10.46 + 29.465 =$ _____

10. $322 + 0.95 + 6.45 + 9.6 =$ _____

11. $632.838 - 19.869 =$ _____

12. $1.572 - 0.985 =$ _____

13. $6.4 - 3.634 =$ _____

14. $2.6 - 0.087 =$ _____

15. $4.819 - 3.734 =$ _____

16. $57.6 \times 2.9 =$ _____

17. $149.36 \times 700 =$ _____

18. $56.43 \times 0.018 =$ _____ **19.** $12.8 \times 6.5 =$ _____ **20.** $27.5 \times 5.89 =$ _____

21. $5.9 \div 5.3 =$ _____ **22.** $0.295 \div 0.059 =$ _____ **23.** $124 \div 0.008 =$ _____

24. $0.7 \div 2.3 =$ _____ **25.** $5.928 \div 2.4 =$ _____

DIRECTIONS: Change the following decimal fractions to proper fractions.

26. 0.005 _____ **27.** 0.35 _____ **28.** 0.125 _____ **29.** 0.85 _____

30. 0.6 _____

DIRECTIONS: Change the following proper fractions to decimal fractions.

31. 1/6 _____ **32.** 1/400 _____ **33.** 7/8 _____ **34.** 1/150 _____

35. 1/125 _____

ANSWERS ON P. 505.

evolve For additional practice problems, refer to the Mathematics Review section of *Drug Calculations Companion,* Version 4, on Evolve.

NAME _____

DATE _____

ACCEPTABLE SCORE 38

YOUR SCORE _____

CHAPTER 3
Percents

PRETEST

Complete the Percents Pretest. A score of 38 out of 40 indicates an acceptable understanding of and competency in basic calculations involving percents. You may skip to the Ratios Pretest on p. 67. However, if you score 37 or below, completion of Chapter 3, Percents, will be helpful for your continued success in the calculation of drug dosages.

DIRECTIONS: Change the following fractions to percents.

1. $\frac{1}{60}$ _____ **2.** $\frac{5}{7}$ _____ **3.** $\frac{1}{8}$ _____

4. $\frac{3}{10}$ _____ **5.** $\frac{4}{3}$ _____

DIRECTIONS: Change the following decimals to percents.

6. 0.006 _____ **7.** 0.35 _____ **8.** 0.427 _____

9. 3.821 _____ **10.** 0.7 _____

DIRECTIONS: Change the following percents to proper fractions.

11. 0.5% _____ **12.** 75% _____ **13.** 9½% _____

14. 24.8% _____ **15.** ⅜% _____

DIRECTIONS: Change the following percents to decimals.

16. 1⅙% _____ **17.** 7.5% _____ **18.** 13⅗% _____

19. ⅘% _____ **20.** 63% _____

DIRECTIONS: What percent of

21. 1.60 is 6 _____ **22.** ¾ is ⅛ _____ **23.** 100 is 65 _____

24. 500 is 1 _____ **25.** 4.5 is 1.5 _____ **26.** 37.8 is 4.6 _____

27. $1\frac{4}{9}$ is $\frac{5}{8}$ _____

28. 1000 is 100 _____

29. $3\frac{1}{2}$ is $\frac{1}{4}$ _____

30. 9.7 is $\frac{1}{6}$ _____

DIRECTIONS: What is

31. 3% of 60 _____

32. $\frac{1}{4}$% of 60 _____

33. 4.5% of 57 _____

34. $2\frac{1}{8}$% of 32 _____

35. 4% of 77 _____

36. 9.3% of 46 _____

37. $\frac{3}{7}$% of 14 _____

38. 22% of 88 _____

39. 7.6% of 156 _____

40. 5% of 300 _____

ANSWERS ON P. 505.