Mathematics 100-800
Diagnostic Tests

CONTENTS

******** **NOTE:** ********
If provided, remove the answer key from the center section of this booklet.

Alpha Omega Publications®

MATHEMATICS   100-800

PLACEMENT TEST for the LIFEPAC CURRICULUM

Instructions

This test is designed to aid the teacher in proper placement of the student into the LIFEPAC curriculum. It has two sections: the Student Test and the Answer Key. The Answer Key is an insert in the Student Test and may be removed when testing begins.

This is not a timed test and the student should be given an opportunity to answer each question adequately. If the student becomes bogged down and the test seems too difficult, skip to the next section. If the test is still too difficult, this child's academic skill level has been reached and testing may stop. Each test level should take no longer than one hour. Students should not use a calculator for any of the tests.

Testing should begin approximately two grade levels below the student's current or just completed grade level. For example, a student entering fifth grade [500] should begin testing at the third grade [300] level. (Of course, a second grader could not test below the first grade level [100]). This allows for proper grade level placement as well as identification of any learning gaps that the student may have.

Once the test has been administered, it is ready to be scored. The teacher or parent does all of the scoring except for those who are using one of our placement services. Use the Answer Key to mark all incorrect answers on the Student Test. Next, record the total number of **correct** answers in the box beneath the LIFEPAC number in the left hand column. **Each numbered question equals one point.** When all tests have been graded, transfer the number correct by LIFEPAC to the Student Placement Worksheet on page AK-16 of the Answer Key. Then add the total number of points per grade level.

Test	Level		Test	Level		Test	Level		Test	Level	
101 - 110	Level	1	201 - 210	Level	2	301 - 310	Level	3	401 - 410	Level	4
501 - 510	Level	5	601 - 610	Level	6	701 - 710	Level	7	801 - 810	Level	8

FIRST GRADE TEST ADMINISTRATORS: Test administrators may assist students in reading instructions when necessary; however, care should be taken as too much support may alter test results. First grade students may answer questions on the test pages or the right hand column. The right hand column is available for test administrators to mark whether the response was correct or incorrect. Each question equals one point. There are ten possible points per section. Put all answers on the blanks to the right of the questions unless instructed to do otherwise.

101 **Write the missing numbers.**

☐ **1.** 49, _____, _____, 52   **2.** 84, _____, _____, 87   1. _____

Circle the numbers   2. _____
3. greater than 48.   **4.** less than 51.

93   62   36   25   43   79   3. _____

5. **Circle the short one.**   ▭   ▭   4. _____

6.   3   2   7   6   **7.**   7   8   5   6   5. _____
       + 5 + 4 + 0 + 2   - 3 - 2 - 0 - 3   6. _____

8. **Write the numbers in order.**   7. _____

14   18 2   6   15   _____ _____ _____ _____ _____   8. _____

9. **Measure.** ———————————————— _____ inches   9. _____

10. **Circle the** triangle.   ◯   ☐   △   ▭   10. _____

102 **1.**   6   5   2   3   **2.**   4 + 3 = _____
       + 4 + 5 + 7 + 4   1. _____
☐   1 + 9 = _____
                                                                               2. _____
3.   7   8   10   9   3 + 0 = _____
       - 5 - 3 - 9 - 2   3. _____
                                 5. 8 - 6 = _____
4.   10   10   10   10   4. _____
       + 4 + 0 + 9 + 6   10 - 2 = _____
                                                                               5. _____
                                        9 - 3 = _____

6. **Match.**   **7.** **Circle the shape that**   6. _____
4   seven   **has an inside and outside.**
8   four   a. ☐   b. ⬛
3   eight
7   three   7. _____
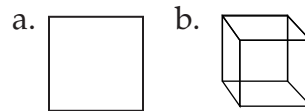
8. **Write how many.**
●●●●
●●●●   tens_____ + ones _____   8. _____
●●●●

9. **Write what comes next.** 1 2 3, 3 2 1, 1 2 3, _____   9. _____

10. **Circle the** fourth **banana.**   🍌 🍌 🍌 🍌 🍌 🍌   10. _____

1

103 **Circle the answer.**

1. 3 (+ , −) 5 = 8   **2.** 9 − 4 (= , ≠) 6   1. _____

3. Nine (plus , minus) four equals five.   2. _____

4. Seven minus three (equals, is not equal to) two.   3. _____

Write the missing word.   4. _____

5. Six plus three equals _____.

5. _____

6. Circle $\frac{1}{2}$.   **7.** **Write the time.**   6. _____

_____ : _____ o'clock

7. _____

8. How many   **9.**   5   3   10   8   8. _____
days in a week? _____   + 5   + 6   − 3   − 5

9. _____

10. **Write in number order.**   10. _____
69 68 71 67 70   _____ _____ _____ _____ _____

104 **Write the missing numbers.**

1. 2, _____, 6, _____, _____, 12 **2.** 10, _____, 30, 40, _____, _____   1. _____

3. **Circle the even numbers.** 1 2 3 4 5 6 7 8 9 10   2. _____

4. **Write the number.** 10 + 3 = _____   80 + 4 = _____   3. _____

5. **Write the values for tens and ones.**   **6. Tell the order from**   4. _____
                                                        heaviest to lightest.

75 = _____ + _____   a.   b.   c.   5. _____

7. **Match.**   6. _____

square
cube
triangle   _____ _____ _____
cylinder

7. _____

9. 8   7   2   7
8. 57¢ = _____dimes + _____pennies   + 5   + 6   + 9   + 8   8. _____

10. **Circle the answer.**   9. _____
8 + 6 (= , ≠) 14

10. _____

2

105

1.

6	5	1	2
3	2	4	5
+ 1	+ 3	+ 7	+ 4

2. **Match the number to the word.**

1 2 3 4 5 6

third _____   sixth _____

3. **Show** $\frac{1}{2}$.

4. **Circle** $\frac{1}{4}$.

5. **Draw what comes next.**

○ □ ○ ○ □ □

6. **Write the time.**

_____ : _____ o'clock

7. **Match.**

17	fifteen
19	seventeen
15	thirteen
13	nineteen

8. Mark read 2 pages in his book on Monday, 4 pages on Tuesday, and 6 pages on Wednesday. How many pages do you think he read on Thursday? _____

9. 23¢ = _____ dimes + _____ pennies

10. How many in a dozen? _____

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____
_____

8. _____

9. _____

10. _____

106

1.

9	10	7	8
- 5	- 3	- 5	- 7

2. **Add and check.**

4	3
2	5
+ 6	+ 2

Write a number sentence.

3. 7, 5, 2 _____

4. four, six, ten _____

Write the missing numbers.   **Circle the answer.**

5. 5, _____, 15, _____, _____, 30

6. 19 (> , <) 24   72 (> , <) 69

7. 69¢ = _____ dimes + _____ nickels + _____ pennies

8. **Write the time.**

_____ : _____ o'clock

9.

22	60	73
+ 41	+ 35	+ 14

10. Ben has 4 nickels, Corey has 2 nickels, and Jason has 5 nickels. How many nickels do they have altogether? _____

1. _____

2. _____

3. _____

4. _____
_____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

107

[ ]

Circle the numbers.

1. greater than 132.　　　　　　　　　**2.** less than 176.　　　　1. _____

143　　115　　192　　　　　　　　　104　　185　　160　　　2. _____

3. Write AM or PM.　I go to bed at night. _____ .　　　3. _____

4. Write the fraction. 　　　_____　　　4. _____

5. Use both 7 and 2 to write a big ____ and a little ____ number.　　5. _____

Circle the answer.　　　　　**7.** 12　11　　11　　11　　6. _____
6. 3 + 5 (> , <) 2 + 4　　　　　− 7　− 8　　− 3　　− 4

8. Four plus three (= , ≠) eight.　　　　　　　　　　7. _____

9. Write 100's, 10's, 1's.　138 = _____ + _____ + _____　8. _____

10. Write how many.　① _____　② _____　　9. _____

① ②
| | | |
| | | |
0　5　10　15　20　25　　　　　　　　　　　　　　10. _____

108　**1.** 13　　17　　14　　16　**2.** Write the time.

[ ]

− 5　　− 8　　− 6　　− 7　　　　_____:_____ o'clock　　1. _____

　　　　　　　　　　　　　　　　　　　　　　　　2. _____

3. Measure. ————————————— _____ inches.

　　　　　　　　　　　　　　　　　　　　　　　　3. _____
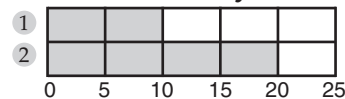
Write the number word.

4. 56 _____　4. _____

5. $\frac{3}{4}$ _____　5. _____

6. Circle the closest 10's number to 26.　　20　　26　　30　6. _____

7. Write the number.　100 + 60 + 5 = _____　　　7. _____
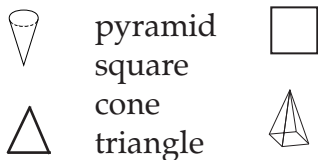
8. Match.　　　　　　**9.** Write the missing　　8. _____
　　　　　　　　　　　　　　　numbers.
　　pyramid [ ]　　　　　　　　　　　　　　　9. _____
　　square　　　　153, _____, _____, 156, _____
　　cone
　　triangle　　　　　　　　　　　　　　　　10. _____

10. Write what comes next.　Monday, Tuesday, Wednesday, _____

4

109

Write the family of facts for 4, 8, 12.

1. _____ + _____ = _____   _____ + _____ = _____

2. _____ − _____ = _____   _____ − _____ = _____

3. $\begin{array}{cccc} 15 & 13 & 49 & 86 \\ -\ 8 & -\ 5 & -24 & -\ 5 \end{array}$

4. $\begin{array}{cc} 5 & 51 \\ 3 & 22 \\ +\ 6 & +\ 16 \end{array}$

5. Is 46 closer to 40 or 50? _____
6. 175 has a _____ in the 10's place.

7. **Write the circled part of the set as a fraction.** _____
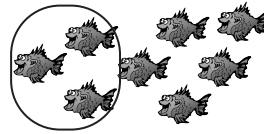
8. **Circle** (T) **for true or** (F) **for false.**
James has a dozen eggs. He fell and broke 15 of them. (T , F)

9. **Write what comes next.** April, May, June, _____

10. Jamie has three dimes, two nickels, and four pennies.
How much money does Jamie have? _____ cents

1. _____
   _____
2. _____
   _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

110

1. Even numbers end in _____, _____, _____, _____, or _____.

2. **Circle the arrow for south.**   ↑   →   ↓   ←

3. $\begin{array}{cc} 23 & 12 \\ 51 & 5 \\ +\ 15 & +\ 20 \end{array}$

4. $\begin{array}{cccc} 16 & 79 & 68 & 93 \\ -\ 8 & -\ 5 & -\ 24 & -\ 51 \end{array}$

5. **Write what comes next.**
7 + 8 = 15,   8 + 7 = 15,   15 - 7 = 8

Write in columns. Add or subtract.

6. 15 + 3 =
   35 + 14 =

7. 18 - 6 =
   57 - 24 =

8. **Color 15 squares green.**

△
□
0   5   10   15   20
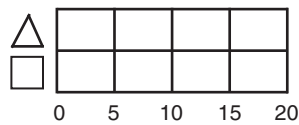
9. **Draw a set of** 4 triangles.
Circle $\frac{3}{4}$ **of the set.**

10. **Write the missing word.** Fourteen minus nine equals _____.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

5

201

1. **Write in words.** 13   45

2. 6   9   5   17   **3.**   52   41   67   85
   $+7$ $+5$ -0 -8 $+46$ 23 -25 -32
                                    $+13$

4. **Write the number in the ten's place.**   36   95

5. **Write the number before and after.**
   a. _____ 17 _____   b. _____ 59 _____

6. **Write a fact family.** 4, 7, 11
   ___ + ___ = ___   ___ + ___ = ___   ___ − ___ = ___   ___ − ___ = ___

7. **Write the symbol.**
   a. 9 (+, −) 5 = 4   b. 10 (+, −) 8 = 2
   c. 6 + 5 (=, ≠) 12   d. 12 (>, <) 19

8. Kevin has 4 dimes. Lisa has 3 dimes.
   How many dimes do they have altogether?

9. **Write in symbols.**
   Fifteen minus six is not equal to eight.
   Seventy-four is greater than sixty-two.

10. **Find the square.**   a. ○   b. ◇   c. △   d. □

202

1. **Write missing numbers.** 137, __, 139, __, 141, __, __

2. 3 + 5 + 11 = __   32 + 4 + 21 = __   13 − 5 = __   7 − 0 = __

3. **Write** even **or** odd.   32 is __.

4. When counting by 5's, the numbers always end in ___ or ___.

5. How many minutes in an hour?

6. **Write the time.**   (clock)   **7.**   39   89
                                          -6 -30

8. Katie had eight cookies. She gave four to Jodie.
   How many cookies does Katie have now?

9. **Write how many.**
   76¢   = ___ dimes + ___ nickels + ___ pennies

10. **Write the little hearts as a fraction.**   ♥ ♥ ♥ ♥ ♥

Answer column:

1. _____
2. ___ / ___ / ___
3. ___ / ___ / ___
4. ___ / ___
5. ___ / ___ / ___
6. _____
7a. ___ b. ___
   c. ___ d. ___
8. _____
9. _____
10. _____

1. ___ / ___ / ___
2. ___ / ___ / ___
3. _____
4. ___ / ___
5. _____
6. _____
7. ___ / ___
8. _____
9. ___ / ___
10. _____

6

203

1. $6 + 4 - 3 =$ ___ $15 - 7 + 3 =$ ___   1. ___ / _____

2. **a. Write how many.** $135 =$ ___ hundreds + ___ tens + ___ ones.   2a. ___ / _____
   b. Write the value. $135 =$ _____ + _____ + _____.
                                                                             b. ___ / _____

3.   35   18   4.   62¢ $8.39   3. ___ / _____
   $+ 49$ $+ 56$ $+ 35¢$ $- 4.15

4. ___ / _____

5. Are paper clips or inches standard measurements?   5. _____

6. **Write how many.**   6. ___ / _____
   $3.38 = ___ dollars + ___ dimes + ___ nickels + ___ pennies   ___ / _____

7. **Round to the nearest 10.**   38   13   7. ___ / _____

8. **a. Write in numbers.**   one hundred four   8a. _____
   b. Write in words.   153   b. _____

9. **How many** oranges in $\frac{4}{6}$ of a set of 6 oranges?   9. _____

10. **Write the sign.**   76 (>, <) 75   16 (=, ≠) 8 + 7   10. ___ / _____

204

1. Write the missing numbers.   498, 499, ____, _____   1. ___ / _____

2. **a. Write in numbers.**   seven hundred nineteen   2a. _____
   b. Write in words.   601   b. _____

3. **a. Write how many.** $804 =$ ___ hundreds + ___ tens + ___ ones.   3a. ___ / _____
   b. Write the value. $804 =$ _____ + _____ + _____.
                                                                             b. ___ / _____

4. **Write cents in coins.** Use each coin.   4. ___ / _____
   = ___ quarters + ___ dimes + ___ nickels + ___ pennies   ___ / _____
   $ .89

5.   347   23   6.   65   728   5. ___ / _____
   $+ 601$ $+ 49$ $- 23$ $- 517$

6. ___ / _____

7. **Write how many.**   ___ inches = 1 foot   ___ feet = 1 yard   7. ___ / _____

8. **Find the solid shapes.**

   a.   b.   c.   d.   e.   8. ___ / _____

9. **Round to the nearest 10.**   62   87   9. ___ / _____

10. The toy car cost 63¢. You paid 6 dimes and 1 nickel.
    How much change did you receive?   10. _____

7

205

1. **Write the symbols.** $7 + 9$ (>, <) $6 + 8$ $12 - 7$ (=, ≠) $13 - 8$

2. The graph tells the number of matches in the game.
   How many matches in Game 3?
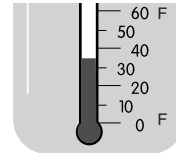
   Game 3

   0   1   2   3   4   5   6

3. **Count by 3's. Write the numbers.**
   1   2   3   4   5   6   7   8   9   10   11   12

4. **Use all of the numbers** 5, 3, and 9 **to write the**
   (a.) largest and **(b.)** the smallest number.

5. $\frac{1}{5}$ $\frac{3}{8}$

   $+ \frac{2}{5}$ $+ \frac{4}{8}$

6. **Write the**
   temperature.

7. 258   429
   + 307   + 143

8. 36   584
   − 6   − 253

9. **How many in a dozen?** ____

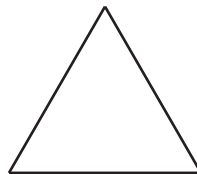10. **Write the ordinal number word for** fifteen.

206

1. **Write the time.**

2. $\frac{2}{7}$ $\frac{7}{12}$

   $+ \frac{3}{7}$ $- \frac{5}{12}$

3. 237   356
   + 349   + 206

4. 62   71
   − 28   − 46

5. **Measure the sides.**
   Write the perimeter.

6. **a. Write how many.** $932 =$ ___ hundreds + ___ tens + ___ ones.
   b. Write the value. $932 =$ _____ + _____ + _____ .

7. **Write in dollars and cents.** 2 dollars, five quarters, 2 dimes

8. **Write how many.** ___ inches = 1 yard   ___ ounces = 1 pound

9. **Write in number order.** 356   563   365   536

10. **Name the shape**
    that does not belong.

Answer blanks (right column):

1. ____ / ____
2. _____
3. _____
4a. ____ b. ____
5. ____ / ____
6. _____
7. ____ / ____
8. ____ / ____
9. _____
10. _____

1. _____
2. ____ / ____
3. ____ / ____
4. ____ / ____
5. _____
6a. ____ / ____
   b. ____ / ____
7. _____
8. ____ / ____
9. ____ / ____
   ____ / ____
10. _____

8

207

1. **Write in words.** $\frac{2}{7}$

2.
$$\begin{array}{c} 40 \\ 24 \\ +\ 12 \end{array} \qquad \begin{array}{r} 146 \\ +\ 352 \end{array} \qquad \begin{array}{r} 636 \\ +\ 249 \end{array} \qquad \begin{array}{r} 270 \\ +\ 345 \end{array}$$

3.
$$\begin{array}{r} 87 \\ -\ 46 \end{array} \qquad \begin{array}{r} 849 \\ -\ 527 \end{array} \qquad \begin{array}{r} 63 \\ -\ 25 \end{array} \qquad \begin{array}{r} 86 \\ -\ 27 \end{array}$$

4. **Tell the pattern.**   48, 46, 44, . . .

5. **Write the months in order.**
   ____ June   ____ May   ____ August   ____ July

6. **Round. Write the answer.**
   If you have 58 pennies, you have close to ___ pennies.

7. **Write how many.**   ___ hours = 1 day   ____ days = 1 week

8.
$$\begin{array}{r} \frac{2}{4} \\ +\ \frac{1}{4} \end{array} \qquad \begin{array}{r} \frac{6}{12} \\ -\ \frac{2}{12} \end{array}$$

9. **When we count by 2's, the numbers end in**
   ___, ___, ___, ___, or ___.

10. **Read the graph. Write the temperature for Friday.**

Friday

70°   72°   74°   76°   78°   80°

1. _____
2. ____/_____
   ____/_____
3. ____/_____
   ____/_____
4. _____
5. ____/_____
   ____/_____
6. _____
7. ____/_____
8. ____/_____
9. ____/_____
   ____/_____
10. _____

208

1. **Write the next problem in the pattern.**
   3 + 0 = 3,   3 + 1 = 4,   3 + 2 = 5, …

2. 5 + 7 – 2 = ___   15 – 9 + 8 = ___

3. **Complete the number sentences.**
   15 (+, –) 8 = 2 + 5   14 – 6 > 5 (+, –) 3

4. **Write the fewest number of coins possible.**
   87¢ = ___ quarters + ___ dimes + ___ nickels + ___ pennies

5. **Tell the order.**
   The triangle is the ___ shape.

6. **Write the perimeter measurement.**
   ↑ 4 inches
   ← 2 inches

7. $\frac{3}{5}$ of a set of five apples is ___ apples.

8. **Tell the direction of the arrow.** ⟶ north, south, east, west

9. **Write how many.**   ___ cups = 1 pint   ____ quarts = 1 gallon

10.
$$\begin{array}{r} \$4.36 \\ +\$2.48 \end{array} \qquad \begin{array}{r} 365 \\ +\ 547 \end{array} \qquad \begin{array}{r} 452 \\ +\ 368 \end{array} \qquad \begin{array}{r} 53 \\ -\ 29 \end{array}$$

1. _____
2. ____/_____
3. ____/_____
4. ____/_____
   ____/_____
5. _____
6. _____
7. _____
8. _____
9. ____/_____
10. ____/_____
   ____/_____

9

209

Measure the rectangle.
1. **a.** length = ____   **b.** width = ___

2. **a.** perimeter = ___   **b.** area = ___

3. **Write the numbers in the hundreds' place.**   307   609

4. **Measure.**   ⸺⸺⸺⸺⸺⸺⸺

5. **Write in numbers. a.** five-sevenths   nine hundred four
   Write in words.   b. $\frac{4}{9}$ 378

6. **Write the answer.** $53 + 6 - 7 =$ ___

7. **Write the operation symbol.**
   $6 + 8 \; (>, <) \; 15$ $14 - 6 \; (=, \neq) \; 8$

8. **Is the answer to the problem an even or odd number?**
   $15 + 6 =$ ___

9.   46   386   473 $\frac{2}{7}$ **10.**   65   573   732 $\frac{6}{15}$

   34   $+\,239$ $+\,187$ $+\,\frac{3}{7}$ $-\,28$ $-\,367$ $-\,509$ $-\,\frac{4}{15}$

   $\underline{+\,27}$

210

1. **Round to the nearest 100.**   637   750

2. Jenny poured 3 quarts of water into a gallon container. How many more quarts did she need to pour to fill the container?

3. **Is the answer even or odd?**   odd + even = ___

4. **a. Write in numbers.**   five dollars and thirteen cents
   b. Write in words. $8.06

5. **Write the values.** $754 =$ ___ + ___ + ___

6. **Write the time on the digital clock.**   **8:16** AM • PM

7. **Add the fractions.**   ▨▨▨▨▨ + ▨▨▨▨▨ = _____

8. **Write the symbols to make the number sentences true.** +, −, =
   a.   47 ___ 41 ___ 6   **b.** 83 ___ 5 ___ 88

9. **Write what comes next.** $\frac{1}{7}, \frac{2}{7}, \frac{3}{7}, \ldots$

10.   368 $4.59   854 $9.52
      $\underline{+\,448}$ $\underline{+\,\$3.16}$ $\underline{-\,619}$ $\underline{-\,\$7.39}$

Answer column:
1. ___/___
2. ___/___
3. ___/___
4. _____
5a. ___/___
b. _____
6. _____
7. ___/___
8. _____
9. ___/___ ___/___
10. ___/___ ___/___

1. ___/___
2. _____
3. _____
4a. _____
b. _____
5. ___/___
6. _____
7. _____
8a. ___/___
b. ___/___
9. _____
10. ___/___ ___/___

301

1. **There are ten digits altogether. Write any two of the digits.** 　　1. _____

2. **Write the number words in digits.**　　nine hundred five　　2. _____
3. **Write the numbers in number order.**　　3. _____
   351　　62　　14　　845　　315　　291

   ____ ____ , ____ , ____ ____ ____

4. **Write the value of 7 in 783.**　　4. _____

5. $8 - 6 + 7 + 5 =$ ____　　　　$13 + 5 - 9 - 6 =$ ____　　5. ____/____

6. 　243　　$427 + 38 =$ ____　　　773　　$369 - 48 =$ ____
   　$+ 409$　　　　　　　　　　$- 241$　　　　　6. ____/____
   　　　　　　　　　　　　　　　　　　　　　　　____/____

7. **How many …** inches in a foot?___ feet in a yard?___　　7. ____/____

8. **Write sentences using digits and operation symbols.**
   Seventeen minus eight is not equal to six.　　8. _____
   Four plus five is greater than twelve minus seven.　　_____

9. **Write an ordinal number word.**　　9. _____
   Forty-six is the ___ number in the row.
   　　5　　18　　23　　46　　52　　63

10. Benny had 37 pennies. He spent 14 pennies in the gumball　　10. _____
    machine. **How many pennies does Benny have now?**

302

1. **Write the next number in the number pattern.**　　1. ____/____
   Write even or odd.　　2, 4, 6, 8, __, …

2. 　547　　$358 + 69 =$ ___　　　93　　$81 - 43 =$ ___　　2. ____/____
   　$+ 285$　　　　　　　　　　$- 57$　　　　　____/____

3. **Write the value of the underlined digits.**　　3<u>8</u>7　　9<u>0</u>4　　3. ____/____
4. **The minuend is 86 and the subtrahend is 32.**
   What is the difference?　　4. _____

5. **When counting by 5's, the numbers end in ___ or ___.**　　5. ____/____
6. **In the fraction $\frac{4}{5}$, the 4 is the (a. denominator b. numerator).**

7. **Write the correct symbol.**　　6. _____
   $9 + 6$ (>, <) $5 + 8$　　　　$16 - 8$ (=, ≠) $5 + 4$　　7. ____/____

8. **Connect the end points** AB, BC, CD, DA.　　A •　　• B
   Name the shape.　　D •　　• C　　8. _____

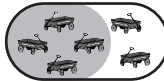9. **Write the amount of coins …** in cents.　in dollars and cents.　9. ____/____

10. There are 4 cookies in one box and a dozen cookies　　10. _____
    in a second box. **How many cookies are there altogether?**

303 **1.** Write the fact family for 6, 0, 6.

_____ _____ _____ _____

2. Write the number in words. 709

3. $\begin{array}{r} 389 \\ +\ 490 \end{array}$ 457 + 386 = ___ $\begin{array}{r} 932 \\ -\ 471 \end{array}$ 625 − 308 = ___

4. ___ ounces = 1 pound   ___ pounds = 1 ton
___ pints = 1 quart   ___ quarts = 1 gallon

5. **Use all of the digits** 6, 3, and 8 **to
write the largest number and to write the smallest number.**

6. **Write a number sentence.**
Joseph read 8 pages in his book. Katie read 7 pages in her book.
Together, they read 15 pages.

7. **Write fractions in digits.** three-fifths eight-ninths

8. **Write the fraction that represents . . .**
the shaded part of the set.
the whole set of wagons.

9. **What time of day does it change from** Monday **to** Tuesday**?**

10. **Measure line segment** AB. A •——————• B

1. ____ / ____
   ____ / ____
2. ____
   ____
3. ____ / ____
   ____ / ____
4. ____ / ____
   ____ / ____
5. ____ / ____
6. ____
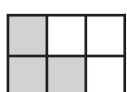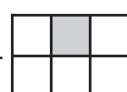7. ____ / ____
8. ____ / ____
9. ____
10. ____

---

304 **1.** Write the place of the underlined digit.   6,352

2. $\begin{array}{r} 275 \\ 364 \\ +\ 186 \end{array}$ $\begin{array}{r} 87 \\ -\ 29 \end{array}$ $\begin{array}{r} 832 \\ -\ 546 \end{array}$ $\begin{array}{r} 954 \\ -\ 287 \end{array}$

3. **Add the rounded numbers.**   48 rounds to ____
23 rounds to + ____

4. **Measure line segment** CD. C •——————• D

5. ____ cups = 1 pint   ____ months = 1 year
____ ounces = 1 pint   ____ inches = 1 yard

6. **Write the number word.** 5,806

7. **Write the money in dollars and coins.** $4.73
Choose from dollars, quarters, dimes, nickels, pennies**.**

8. **Write Roman numerals in Arabic numerals.** XXVI

9. **Name the solid shapes.**

10. **Add the fractions.
Write the answer in words.**

1. ____
2. ____ / ____
   ____ / ____
3. ____
4. ____
5. ____ / ____
   ____ / ____
6. ____
   ____
   ____
7. ____
   ____
8. ____
9. ____
   ____
10. ____

12

305

1.
$\frac{3}{8}$ $\frac{5}{12}$ $\frac{8}{9}$ $\frac{4}{5}$

$+ \frac{4}{8}$ $+ \frac{4}{12}$ $- \frac{2}{9}$ $- \frac{1}{5}$
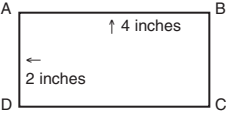
2. Write the temperature.
ice = ___ degrees F.   steam = ___ degrees F.

3. Write the number of cookies that Tommy ate.

Tommy

0   1   2   3   4   5
cookies

4. Add the rounded numbers.   232 rounds to ____
486 rounds to + ____

5. Suppose Line AB is 4 inches.
Suppose Line AD is 2 inches.
What is the perimeter?

A   B
↑ 4 inches
←
2 inches
D   C

6. Write the names of the plane shapes.
Draw a line of symmetry
through each plane shape.

7. When adding an even and odd number together,
the answer is always (**a.** even **b.** odd).

8. Write Roman numerals in Arabic numerals.   XIV

9. Find the pattern. Write what comes next.   **3, 6, 9, 12, . . .**

10. Lisa said that vacation will begin in two months and 5 days.
If it is April 9 today, what day will vacation begin?

1. ____ / ____
   / _____
2. ____ / ____
3. _____
4. _____
5. _____
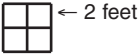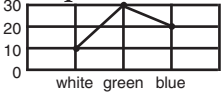6. _____
   _____
7. _____
8. _____
9. _____
10. _____

306

1.
    5,386   4,093   836   9,658
  + 2,437   +3,549   − 467   − 7,542

2. Write the multiples of 2 from 2 to 20.

___ ___ ___ ___ ___ ___ ___ ___ ___ ___

3. ____ seconds = 1 minute   ____ square inches = 1 square foot
____ days = 1 year   ____ square feet = 1 square yard

4. Measure the perimeter.   ← 2 feet
Measure the area.

5. $\frac{3}{7} + \frac{2}{7} = $ ____ $\frac{6}{9} - \frac{2}{9} = $ ____

6. $2.36 $5.67
    + $ .41   + $1.38

7. Write in digits and operation signs.
Eight plus six is not equal to five plus seven.

8. Tell how many
cars are blue.

30
20
10
0
white green blue

9. Tell which drawing illustrates …
a line segment.   an angle.   **a.**   **b.**

10. Melinda had $5.34 to spend. She spent $2.63 on a drawing
book and 85¢ on pencils. **What was her change?**

1. ____ / ____
   / _____
2. _____
3. ____ / ____
   / _____
4. _____
   _____
5. ____ / ____
6. ____ / ____
7. _____
8. _____
9. ____ / ____
10. _____

13

307

1. **Write multiples.**
   6 x 2 = ___   3 x 5 = ___   9 x 2 = ___   5 x 5 = ___

2. **Write in words.** $\frac{4}{7}$ $3\frac{2}{8}$

3.
4,672	5,013	8,708	7,540
− 1,936	− 2,395	− 4,279	− 2,857

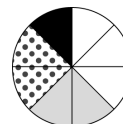4. **Measure the perimeter.**
   Measure the area.   ←1 square inch
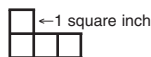
5. $5\frac{3}{7}$ $9\frac{5}{6}$

   $+ 2\frac{2}{7}$ $- 3\frac{1}{6}$

6. **Write in Roman numerals.**   59

7. The spinner is divided into sections that are white, gray, black, and dotted. If the spinner is turned, what is the probability it will stop on white?

8. 67 + ___ = 152 because 152 − ___ = 67

9. **Write the number of cents.**
   1 quarter + 2 dimes - 3 nickels + 2 pennies

10. **In which number does the digit 4 have the greatest value?**
    3,460   9,004   4,132   6,348

308

1. **Choose from** faces, angles, closed lines, squares, rectangles.
   The sides of solid shapes are named___.
   ____ are formed when two lines meet at an end point.

2. 4 yards = _____ feet   2 gallons = _____ quarts

3. **Find the missing numbers.**

18	253
??	437
45	??
97	864

4. **Write the fraction for the decimal.**   .4

5. **Write numbers for number words.**
   four thousand, seven hundred six   two thousand, eight

6. $3\frac{2}{9}$ $2\frac{3}{4}$ **7.**   8,000   7,003

   $+ 4\frac{5}{9}$ $+ 5\frac{1}{4}$ − 4,638   − 3,849

8. **Write the multiples.**
   7 x 2 = ___   6 x 5 = ___   8 x 3 = ___   4 x 10 = ___

9. **Circle two thirds of the set of balls.**
   How many balls is that?

10. Mary, Jo, and Ashlee had completed their math tests. Mary had a score of 87. Jo scored 5 points less than Mary. Ashlee scored 3 points more than Jo. **What was Ashlee's score?**

Answer column (307):
1. ___/___
   ___/___
2. _____
3. ___/___
   ___/___
4. _____
5. ___/___
6. _____
7. ___ out of ___
8. ___/___
9. _____
10. _____

Answer column (308):
1. _____
2. ___/___
3. ___/___
4. _____
5. _____
6. ___/___
7. _____
8. ___/___
   ___/___
9. _____
10. _____

14

309
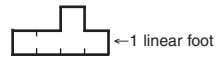
1. **Write in digits.** two-ninths seven and three-eighths

    1. _____ / _____

2. **Shade the part that shows the fraction.** $\frac{3}{4}$ ▦ $\frac{6}{8}$ ▦
   Write yes **or** no **to tell if they are equal.**

    2. _____

3. $6{,}351 + 93 + 578 =$ _____ $4{,}301 - 632 =$ _____

    3. _____ / _____

4. **Write the correct symbol.**
   $7 + 6 - 4\ (=, \neq)\ 15 - 8 + 2$ $80 - 50\ (>, <)\ 40 + 20$

    4. _____ / _____

5. **Write the temperatures. Choose from** 0, 32, 100, 212.
   freezing = ___ degrees Fahrenheit = _____ degrees Celsius

    5. _____ / _____

6. **Write the name of the shape.** **a.** △ **b.** ⬡

    6. _____

7. **Write answers to multiplication facts.**
   $6 \times 3 =$ ___ $8 \times 4 =$ ___ $10 \times 5 =$ ___ $9 \times 2 =$ ___

    7. _____ / _____ / _____

8. **Round to thousands' place.** 7,326 8,540

    8. _____ / _____

9. **Write in Roman numerals.** 537

    9. _____

10. Jody had planned one hour and twenty minutes to complete her reading assignment. How many minutes was that?

    10. _____

310

1. **Round the numbers. Estimate the answer.**
   $2{,}469 + 3{,}571 + 1{,}963 =$ ___ _____ + _____ + _____ =

    1. _____

2.
542	6,391	9,003	8,052
365	+ 2,885	− 2,541	− 4,058
+ 409			

    2. _____ / _____ / _____

3. **Write the multiples for** 4 **from** 4 **to** 40.

   ____ ____ ____ ____ ____ ____ ____ ____ ____ ____

    3. _____

4. $\frac{4}{9}$ $6\frac{1}{5}$ $\frac{7}{8}$ $3\frac{6}{7}$

   $+ \frac{3}{9}$ $+ 2\frac{4}{5}$ $- \frac{4}{8}$ $- 1\frac{2}{7}$

    4. _____ / _____ / _____

5. **Write answers to multiplication facts.**

5	3	4	10
x 6	x 4	x 7	x 3

    5. _____ / _____ / _____

6. **Write the perimeter.**
   Write the area. ←1 linear foot

    6. _____

7. There are 10 fish in the pond. 4 are goldfish. If you went fishing, what is the probability that you would catch a goldfish?

    7. _____ out of _____

8. **Complete the two step problem.**
   $19 - (6 + 3) =$ _____

    8. _____

9. **Find the pattern. Write what comes next.**
   $7 + 8 = 15$, $8 + 7 = 15$, $15 - 7 = 8$, …

    9. _____

10. Jason drank $\frac{3}{8}$ of his glass of milk.
    How much milk was there left in the glass to drink?

    10. _____

15

401

1. List the digits between 0 and 5.
2. Write a multi-digit number with 5 in the tens' position, 6 in the one's position, 0 in the hundreds' position, and 4 in the thousands' position.
3. In the problem 8 − 6 = 2, the difference is (a. __), the minuend is (b.__) and the subtrahend is (c. __).
4. What number is missing from the sequence? 3, 6, __, 12, 15...
5. Write the digits.   seventy dollars and four cents
6. Expand 8,059. _____+_____+_____+_____
7. Write the number 6 in words as an ordinal number.
8. Write the numbers 4 and 9 as a fraction with 9 as the denominator and 4 as the numerator.
9. Write eleven-twelfths as a fraction.
10. Complete these facts.
    a. 5 x 4 =   b. 8 x 3 =   c. 2 x 9 =

1. _____
2. _____
3a. _____
b. _____
c. _____
4. _____
5. _____
6. _____
_____
_____
_____
7. _____
8. _____
9. _____
10a. _____
b. _____
c. _____

402

Write the correct symbol.
1. 6,835   <, >   6,358
2.   748   =, ≠   784

3. Round to the nearest 10.   a. 85   b. 236

4. Round the numbers to the nearest hundred.   249 = _____
   Find the estimated answer.   +326 = _____

5.   603   6a. $\frac{7}{8}$ b. $\frac{4}{9}$
   $\times\ 3$

                      $+\ \frac{1}{8}$ $-\ \frac{3}{9}$

7. 8 + 15 + N = 33   N = _____

8. Write an equivalent fraction for $\frac{2}{3}$.
   Use 3 as the multiplier.

9. Write in digits: forty-thousand, six hundred ten.

10. There are eleven marbles in the bag. Two are green, three are red and the remainder are white. **Express the number of white marbles as a fraction.**

1. _____
2. _____
3a. _____
b. _____
4. _____
5. _____
6a. ____ b. ____
7. _____
8. _____
9. _____
10. _____

403

1. **Round to the nearest thousand.** 5,568

    1. _____

2. **Round the numbers to the nearest thousand.** 7,432 = _____
   Find the *estimated* **answer.**   − 3,869 = _____

    2. _____

3. **If a number is multiplied by** zero **the answer is always_____.**

    3. _____

4. **Find the product of** 3 **and** 5.

    4. _____

5. **Fill in the missing numbers in this sequence.**
   $\frac{3}{8}$, $\frac{4}{8}$, $\frac{5}{8}$, $\frac{}{8}$, $\frac{}{8}$, $\frac{8}{8}$

    5. _____

6. $\frac{7}{5}$ **is**   (>, <) **1.**   7. $\frac{3}{4}$ (=, ≠) $\frac{12}{16}$

    6. _____

8. **Write in digits:**
   five hundred twenty thousand, six hundred eighty-five

    7. _____
    8. _____

9. **What digit is in the ten thousands' place?**   856,349

    9. _____

10. **Solve.**   **a.**   642   **b.**   391
                    x 5   x 6

    10a. _____ b. _____

404

1. **Round to the thousands' place.**   6,785

    1. _____

2. **Select the solid shapes.**
   a. sphere **b.** oval **c.** octagon **d.** cone **e.** diamond **f.** pyramid

    2. _____

3. **How many dimensions does a plane shape have?** (1, 2, 3, 4)

4. **A polygon must have at least** (1, 2, 3, 4) **sides.**

5. **A ray has** (1, 2, 3, 4) **endpoints**.

6. **A circle is a continuous** (**a.** ray **b.** line **c.** line segment).

    3. _____
    4. _____
    5. _____
    6. _____

7. **If a rectangle has measurement of** 3 feet by 2 feet, **the length
   is a.____**feet **and the width is b.____feet.**

    7a. _____
    b. _____

8. In a class of students, **twenty-six are going to camp** and **fourteen
   are not**. Express as a fraction the **number of students from the
   whole class** who are **not** going to camp.

    8. _____

9. **Bob started a new box of cereal on Monday. By Friday, he had
   eaten** $\frac{5}{8}$ **of the box. How much of the cereal was left by Friday?**

    9. _____

10. N − 184 = 359   N = _____

    10. _____

405

Write the family of facts for

1. 5, 6, and 11.
2. 7, 8, and 56.

3. Write the equivalent.
   a. 1 foot = __inches **b.** 1 pint = __cups **c.** 1 gallon = __quarts

A rectangle has the measurement of 5 feet **by** 6 feet.
4. What is the perimeter?
5. What is the area?

6. Write the equivalent in Arabic or Roman numerals.
   a. LVII   **b.** 1,326

7. (8 x 5) − 4 = N   What does N equal?
8. 15 + 9 + 12 + N = 45.   What does N equal?

9. Solve.   **a.** 3,672   **b.** 7,693
                    x   4   x   7

10. Solve.

   a.   **b.**   **c.** 63 ÷ 7 =   **d.** 48 ÷ 6 =
       7)56   8)40

1. _____
_____
_____
_____
2. _____
_____
_____
_____
3a. _____
b. _____
c. _____
4. _____
5. _____
6a. _____
b. _____
7. _____
8. _____
9a. _____
b. _____
10a. _____
b. _____
c. _____
d. _____

406

1. **Write the prime numbers between** 0 **and** 10.
2. **What are the factors of** 8?
3. **List the first** 4 **multiples of** 5. **Begin with** 5.
4. $\frac{8}{7}$ **is a (** **a.** proper **b.** improper **) fraction.**

5. **Change** $\frac{6}{18}$ **to an equivalent fraction by dividing numerator and denominator by the same number.**

6. **Write the missing numbers.** $2\frac{1}{3}$, _____, 3, _____, $3\frac{2}{3}$

7. **Solve.**   **a.** $4\frac{2}{5}$ **b.** $11\frac{5}{9}$

                  $+\ 7\frac{1}{5}$ $-\ 6\frac{3}{9}$

8. **What is the perimeter of a triangle with sides equal to 5 inches?**

9. **How many angles in a square?**

10. **Solve with a remainder.**   **a.** 5)38   **b.** 4)21

1. _____
2. _____
3. _____
4. _____

5. _____

6. _____

7a. _____
b. _____

8. _____

9. _____

10a. _____ b. _____

18

407

Solve.   Simplify.

1. **a.** 43   **b.** 693   2. **a.** $\frac{3}{12}$ **b.** $\frac{24}{5}$

    x 25   x   48

Add or subtract and simplify.

3. **a.** $\frac{7}{8}$ **b.** $\frac{4}{15}$ 4. **a.** $\frac{11}{12}$ **b.** $\frac{20}{21}$

    $+ \frac{5}{8}$ $+ \frac{6}{15}$ $- \frac{5}{12}$ $- \frac{13}{21}$

5. **Identify as (a.** line **b.** angle **c.** ray**).**

6. **A rectangle measures:** length 5 ft. width 3 ft.
    Find the   **a.** perimeter _____   **b.** area _____

7. **Find the average of** 5, 7, 9, 12, and 12**.**

8. **Solve. What is** seventy-four dollars and two cents **minus**
    thirty dollars and ten cents**?**

9. **Find the missing number.** N = (12 x 6) – 42.

10. **Prove by cross multiplication that** $\frac{3}{8}$ = $\frac{9}{24}$.

1a. _____
b. _____

2a. _____   b. _____

3a. _____   b. _____

4a. _____   b. _____

5. _____

6a. _____
b. _____

7. _____

8. _____

9. _____

10. _____
_____

408

1. N = 369 ÷ (4 + 2 + 3)   N = _____

2. **a.** 4,863   **b.** 2,763   3. **a.**   **b.**

    x   24   x   24   4)923   9)279

4. **What is the smallest multiple that** 3 and 6 **have in common?**

5. **Find the equivalent fractions.**

        a. $\frac{3}{5}$ = $\frac{}{10}$ **b.** $\frac{4}{5}$ = $\frac{}{20}$

6. **Solve and simplify.**   7.

        a. $\frac{3}{5}$ **b.** $\frac{6}{16}$ **a.** $\frac{11}{15}$ **b.** $\frac{14}{18}$

        $+ \frac{7}{10}$ $+ \frac{3}{8}$ $- \frac{2}{5}$ $- \frac{1}{3}$

8. **What number is the metric system based on?**

9. **A centimeter is (<, >) a meter.**

10. **The freezing temperature is ___ degrees Fahrenheit.**

1. _____
2a. _____
b. _____
3a. _____
b. _____

4. _____

5a. _____   b. _____

6a. _____   b. _____

7a. _____   b. _____

8. _____

9. _____

10. _____

409

1. **Write the equivalent fraction.**   **a.** .04   **b.** .903   1a. _____   b. _____

2. **Write the equivalent decimal.**   **a.** $\frac{3}{100}$ **b.** $\frac{425}{1,000}$ 2a. _____

          b. _____

3. **Write in words.**   **a.** .63   **b.** 2.4   3a. _____

          b. _____

4. **Find the average.**   8, 3, 7, 6   4. _____

5.   3.7 + .42 + 8.72 =   5. _____

6.   6.032 − .73 =   6. _____

7. $4\frac{3}{8}$ 8. $9\frac{5}{12}$ 7. _____

   $+\,7\frac{2}{5}$ $-\,2\frac{3}{8}$ 8. _____

9.   **a.** $\frac{3}{4} + \frac{1}{8} =$ _____   **b.** $\frac{1}{2} + \frac{5}{6} =$ _____   9a. _____   b. _____

10.   **a.** 17 + 5 (=, ≠) 2 × 11   **b.** $\frac{5}{8}$ (<, >) $\frac{7}{10}$ 10a. _____   b. _____

410   **Match.**

1. **A selection from which every member has an equal chance of being chosen**	**a.** estimation	1. _____
	b. circle graph	
	c. problem	
2. **Represents the whole of its parts**	**d.** random sample	2. _____
	e. bar graph	
3. **Connects data with lines**	**f.** prediction	3. _____
	g. picture graph	
4. **A question for which a solution must be found**	**h.** data	4. _____
	i. line graph	
	j. average	
5. **An opinion of the amount or value of something**		5. _____
6. **Illustrated data using wide lines**		6. _____
7. **A list of facts from which a conclusion may be drawn**		7. _____
8. **Uses illustrations**		8. _____
9. **To tell something in advance**		9. _____
10. **Dividing the whole number by the number being counted**		10. _____

LIFEPAC®

MATH
Diagnostic Test Answer Keys

1 0 0 – 8 0 0

101

1. 50, 51
2. 85, 86
3. 93, 62
4. 25, 43
5. ▭
6. 8, 6, 7, 8
7. 4, 6, 5, 3
8. 2, 6, 14, 15, 18
9. 2
10. △

102

1. 10, 10, 9, 7
2. 7, 10, 3
3. 2, 5, 1, 7
4. 14, 10, 19, 16
5. 2, 8, 6
6. four, eight three, seven
7. b. (cube)
8. 1(10), 2
9. 321
10. 1 2 3 ④ 5 6

103

1. +
2. ≠
3. minus
4. is not equal to
5. nine
6. 3 bugs
7. 5:00
8. 7
9. 10, 9, 7, 3
10. 67, 68, 69, 70, 71

104

1. 4, 8, 10
2. 20, 50, 60
3. 2, 4, 6, 8, 10
4. 13, 84
5. 70, 5
6. a, c, b
7. (square, cube, triangle, cylinder)
8. 5, 7
9. 13, 13, 11, 15
10. =

105

1. 10, 10, 12, 11
2. 3, 6
3. (moon)
4. (two coins)
5. ○ ○ ○
6. 2:30
7. seventeen, nineteen, fifteen, thirteen
8. 8
9. 2, 3
10. 12

106

1. 4, 7, 2, 1
2. 12, 12, 10, 10
3. $7 - 5 = 2$
4. Four plus six equals ten
5. 10, 20, 25
6. < , >
7. 6, 1, 4
8. 10:15
9. 63, 95, 87
10. 11

107

1. 143, 192
2. 104, 160
3. PM
4. $\frac{2}{3}$
5. 72, 27
6. >
7. 5, 3, 8, 7
8. ≠
9. 100, 30, 8
10. 10, 20

108

1. 8, 9, 8, 9
2. 3:50
3. $2\frac{1}{2}$
4. fifty-six
5. three-fourths
6. 30
7. 165
8. (pyramid, square, cone, triangle)
9. 154, 155, 157
10. Thursday

109

1. $4 + 8 = 12$
   $8 + 4 = 12$

2. $12 - 4 = 8$
   $12 - 8 = 4$

3. 7, 8, 25, 81

4. 14, 89

5. 50

6. 7

7. $\frac{3}{8}$

8. F

9. July

10. 44¢

110

1. 0, 2, 4, 6, 8

2. ↓

3. 89, 37

4. 8, 74, 44, 42

5. $15 - 8 = 7$

6. 18, 49

7. 12, 33

8.
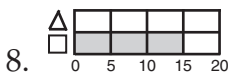
9.

10. five

201

1. thirteen
   forty-five

2. 13 / 14
   5 / 9

3. 98 / 77
   42 / 53

4. 3 / 9

5. 16 / 18
   58 / 60

6. $4 + 7 = 11$
   $7 + 4 = 11$
   $11 - 4 = 7$
   $11 - 7 = 4$

7a. − b. −
   c. ≠ d. <

8. 7 dimes

9. $15 - 6 \neq 8$
   $74 > 62$

10. d

202

1. 138 / 140
   142 / 143

2. 19 / 57
   8 / 7

3. even

4. 0 / 5

5. 60

6. 2:50

7. 33 / 59

8. 4 cookies

9. 7 / 1
   1

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

203

1. 7 / 11

2a. 1 / 3
    5

b. 100 / 30
   5

3. 84 / 74

4. 97¢ / $4.24

5. inches

6. 3 / 3
   1 / 3

7. 40 / 10

8a. 104

b. one hundred
   fifty-three

9. 4 oranges

10. > / ≠

204

1. 500 / 501

2a. 719

b. six hundred
   one

3a. 8 / 0
    4

b. 800 / 0
   4

4. 2 / 3
   1 / 4

5. 948 / 72

6. 42 / 211

7. 12 / 3

8. a / d

9. 60 / 90

10. 2 pennies

205

1. > / =

2. 4

3. 3, 6, 9, 12

4a. 953 b. 359

5. $\frac{3}{5}$ / $\frac{7}{8}$

6. 35° F

7. 565 / 572

8. 30 / 331

9. 12

10. fifteenth

206

1. 8:52

2. $\frac{5}{7}$ / $\frac{2}{12}$

3. 586 / 562

4. 34 / 25

5. 3 inches

6a. 9 / 3
    2

b. 900 / 30
   2

7. $3.45

8. 36 / 16

9. 356 / 365
   536 / 563

10. circle

207
1. two-sevenths
2. 76 / 498, 885 / 615
3. 41 / 322, 38 / 59
4. subtract 2
5. May / June, July / Aug.
6. 60
7. 24 / 7
8. $\frac{3}{4}$ / $\frac{4}{12}$
9. 0 / 2, 4 / 6, 8
10. 74°

208
1. 3 + 3 = 6
2. 10 / 14
3. – / –
4. 3 / 1, 0 / 2
5. fifth
6. 12 inches
7. 3
8. east
9. 2 / 4
10. $6.84 / 912, 820 / 24

209
1. 2 in / 1 in
2. 6 in / 2 sq in
3. 3 / 6
4. $2\frac{1}{2}$ in
5a. $\frac{5}{7}$ / 904
b. four-ninths, three hundred seventy-eight
6. 52
7. < / =
8. odd
9. 107 / 625, 660 / $\frac{5}{7}$
10. 37 / 206, 223 / $\frac{2}{15}$

210
1. 600 / 800
2. 1 quart
3. odd
4a. $5.13
b. eight dollars and six cents
5. 700 / 50, 4
6. 8:16 PM
7. $\frac{5}{6}$
8a. – / = or = / +
b. + / =
9. $\frac{4}{7}$
10. 816 / $7.75, 235 / $2.13

301
1. 0-9 (any two)
2. 905
3. 14, 62, 291,315, 351, 845
4. 700
5. 14 / 3
6. 652 / 465, 532 / 321
7. 12 / 3
8. 17 - 8 ≠ 6, 4 + 5 > 12 - 7
9. fourth
10. 23 pennies

302
1. 10 / even
2. 832 / 427, 36 / 38
3. 300 / 0
4. 54
5. 0 / 5
6. b.
7. > / ≠
8. rectangle
9. 62¢ / $ .62
10. 16 cookies

303
1. 6 + 0 = 6 / 0 + 6 = 6, 6 - 0 = 6 / 6 - 6 = 0
2. seven hundred nine
3. 879 / 843, 461 / 317
4. 16 / 2,000, 2 / 4
5. 863 / 368
6. 8 + 7 = 15
7. $\frac{3}{5}$ / $\frac{8}{9}$
8. $\frac{4}{6}$ / $\frac{6}{6}$
9. midnight
10. $1\frac{1}{2}$ inches

304
1. thousands
2. 825 / 58, 286 / 667
3. 70
4. $1\frac{3}{4}$ inches
5. 2 / 12, 16 / 36
6. five thousand, eight hundred six
7. 4 D, 2 qtrs, 2 d, 3 pen
8. 26
9. cube, cone
10. four-sixths

305
1. $\frac{7}{8}$ / $\frac{9}{12}$
   $\frac{6}{9}$ / $\frac{3}{5}$
2. 32 / 212
3. 3 cookies
4. 700
5. 12 inches
6. pentagon
   hexagon
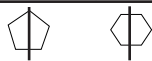
7. odd
8. 14
9. 15
10. June 14

306
1. 7,823 / 7,642
   369 / 2,116
2. 2, 4, 6, 8, 10,
   12, 14, 16, 18, 20
3. 60 / 144
   365 / 9
4. 8 linear feet
   4 square feet
5. $\frac{5}{7}$ / $\frac{4}{9}$
6. $2.77 / $7.05
7. 8 + 6 ≠ 5 + 7
8. 20 cars
9. b / a
10. $1.86

307
1. 12 / 15
   18 / 25
2. four-sevenths
   three and two-eighths
3. 2,736 / 2,618
   4,429 / 4,683
4. 10 linear inches
   4 square inches
5. $7\frac{5}{7}$ / $6\frac{4}{6}$
6. LIX
7. 3 out of 8
8. 85 / 85
9. 32¢
10. 4,132

308
1. faces
   angles
2. 12 / 8
3. 34 / 174
4. $\frac{4}{10}$
5. 4,706
   2,008
6. $7\frac{7}{9}$ / 8
7. 3,362
   3,154
8. 14 / 30
   24 / 40
9. 6
10. 85

309
1. $\frac{2}{9}$ / $7\frac{3}{8}$
2. yes
3. 7,022 / 3,669
4. = / <
5. 32 / 0
6. pyramid
   hexagon
7. 18 / 32
   50 / 18
8. 7,000 / 9,000
9. DXXXVII
10. 80 minutes

310
1. 8,000
2. 1,316 / 9,276
   6,462 / 3,994
3. 4, 8, 12, 16, 20,
   24, 28, 32, 36, 40
4. $\frac{7}{9}$ / 9
   $\frac{3}{8}$ / $2\frac{4}{7}$
5. 30 / 12
   28 / 30
6. 12 linear feet
   5 square feet
7. 4 out of 10
8. 10
9. 15 - 8 = 7
10. $\frac{5}{8}$ glass

401
1. 1, 2, 3, 4
2. 4,056
3a. 2
b. 8
c. 6
4. 9
5. $70.04
6. 8,000 or 8 × 1,000
   000 or 0 × 100
   50 or 5 × 10
   9 or 9 × 1
7. sixth
8. $\frac{4}{9}$
9. $\frac{11}{12}$
10a. 20
b. 24
c. 18

402
1. >
2. ≠
3a. 90
b. 240
4. 500
5. 1,809
6a. 1   b. $\frac{1}{9}$
7. 10
8. $\frac{6}{9}$
9. 40, 610
10. $\frac{6}{11}$

AK5

403
1. 6,000
2. 3,000
3. 0
4. 15
5. 6, 7
6. >
7. =
8. 520,685
9. 5
10a. 3,210 b. 2,346

404
1. 7,000
2. a, d, f
3. 2
4. 3
5. 1
6. b
7a. 3
b. 2
8. $\frac{14}{40}$
9. $\frac{3}{8}$
10. 543

405
1. 5 + 6 = 11
   6 + 5 = 11
   11 − 6 = 5
   11 − 5 = 6
2. 7 x 8 = 56
   8 x 7 = 56
   56 ÷ 8 = 7
   56 ÷ 7 = 8
3a. 12
b. 2
c. 4
4. 22 ft.
5. 30 sq. ft.
6a. 57
b. MCCCXXVI
7. 36
8. 9
9a. 14,688
b. 53,851
10a. 8
b. 5
c. 9
d. 8

406
1. 1, 2, 3, 5, 7
2. 1, 2, 4, 8
3. 5, 10, 15, 20
4. b
5. $\frac{1}{3}$ or $\frac{2}{6}$ or $\frac{3}{9}$
6. $2\frac{2}{3}$, $3\frac{1}{3}$
7a. $11\frac{3}{5}$
b. $5\frac{2}{9}$
8. 15 in.
9. 4
10a. 7 R3 b. 5 R1

407
1a. 1,075
b. 33,264
2a. $\frac{1}{4}$ b. $4\frac{4}{5}$
3a. $1\frac{1}{2}$ b. $\frac{2}{3}$
4a. $\frac{1}{2}$ b. $\frac{1}{3}$
5. c
6a. 16 ft.
b. 15 sq. ft.
7. 9
8. $43.92
9. 30
10. 3 x 24 = 72
    9 x 8 = 72

408
1. 41
2a. 116,712
b. 66,312
3a. 230 R3
b. 31
4. 6
5a. 6 b. 16
6a. $1\frac{3}{10}$ b. $\frac{3}{4}$
7a. $\frac{1}{3}$ b. $\frac{4}{9}$
8. 10
9. <
10. 32°

409
1a. $\frac{4}{100}$ b. $\frac{903}{1,000}$
2a. .03
b. .425
3a. sixty-three hundredths
b. two and four tenths
4. 6
5. 12.84
6. 5.302
7. $11\frac{31}{40}$
8. $7\frac{1}{24}$
9a. $\frac{7}{8}$ b. $1\frac{1}{3}$
10a. = b. <

410
1. d
2. b
3. i
4. c
5. a
6. e
7. h
8. g
9. f
10. j

501
1. a
2. ten thousands
3. 18
4. 53
5. b
6a. $\frac{5}{7}$ b. $\frac{7}{16}$
7. <
8. 600,059
9. 400
10. 5,000

502
1. 28,743
2. 425
3. 8,000
4. b
5a. 1 b. $\frac{1}{2}$ or $\frac{12}{24}$
6a. $6\frac{4}{7}$ b. $3\frac{1}{3}$
7. c
8. d
9. $\neq$
10a. 30
b. 8

503
1. $\frac{18}{9}$, $9\overline{)18}$ or $18 \div 9$
2. 548,400
3a. $\frac{2}{3}$ b. $1\frac{3}{5}$
4. 12
5a. $12\frac{1}{2}$ b. $3\frac{1}{2}$
6a. $12\frac{1}{6}$ b. $5\frac{1}{8}$
7. 24
8. =
9. 10 in.
10. 4 sq. in.

504
1. d
2. a
3. e
4. b
5. f
6a. 6.02
b. forty-five thousandths
7a. 38.64
b. 23.85
8a. MDXX
b. CCLXXIX
9. ten million
10. $\neq$

505
1a. 350
b. 42,500
2. 271,145
3. $5\frac{1}{2}$ or $5\frac{2}{4}$
4a. 3
b. 16
c. 2
5. 21 yd. 3 in.
6. 20 gal. 3 qt.
7. $\frac{9}{9}$
8a. 2 L + 2 W
b. L × W
9. 180 mi.
10. 40°

506
1. 72 cu. ft.
2. 8 ft.
3a. $3\frac{1}{3}$
b. $2\frac{9}{10}$
4. 8
5a. $\frac{1}{3}$ b. $\frac{5}{8}$
6. thousandths
7. 13.25
8. 6.12
9. 2.08
10. 355.5

507
1. 7 R30
2. 20 R18
3a. 15.05
b. 2.95
4a. .02193
b. 1.44
5. 397,120
6. $1\frac{5}{8}$
7. <
8a. 10
b. $5\frac{3}{5}$
9a. 4
b. 49
10. 54

508
1a. 395
b. 22.05
2a. 76.807
b. 41
3. b
4. 31.4 in.
5. 15 sq. in.
6a. 100
b. 1,000
7. 2.34
8. 2, 2, 3 or 2^2, 3
9. 8 R9
10. 12 R4

509
1a. $\frac{9}{5}$ b. $\frac{1}{7}$

2a. $7\frac{1}{2}$ b. $\frac{1}{36}$

3a. $\frac{4}{21}$ b. 3

4a. 34.5
b. 560

5a. 2.2 b. .026

6a. 3, 1
b. 1, 2

7. 54 mph
8a. 1:4
b. .25
9a. $\frac{52}{100}$
b. 52%
10. $\frac{1}{2}$

510
1. d

2. a

3. f

4. c

5. e

6. b

7. 4:10

8. 40%

9. 218

10a. 72
b. 42

601
1. one billions

2. 3,000

3a. = b. >

4a. 63 b. 12

5. 3,645
6a. 417,952
b. 41 R15

7. 48

8. .09, .46
.637, .8
9. c

10a. $\frac{4}{5}$ b. $1\frac{3}{4}$

602
1. 91

2a. E b. O
c. O d. E

3a. $\frac{3}{4}$ b. $\frac{1}{4}$

4. $\frac{7}{12}$, $\frac{2}{3}$, $\frac{3}{4}$, $\frac{5}{6}$

5a. $8\frac{1}{8}$ b. $2\frac{1}{2}$

6. b

7a. 19.43
b. .454
8a. .108
b. 2.242
9. 3, 3, 5 or 3², 5

10. $2^2 \times 3^3$

603
1. 181

2a. 6 b. 35

3a. 29
b. .4

4. .375

5a. 560
b. .783
6a. 3.39

b. $3.6\frac{5}{8}$ or 3.6625

7. 5, 6, 7, 8

8. 12

9. c

10. a, c

604
1a. 8.16
b. 25.2

2. b

3. 8

4a. $1\frac{3}{5}$ b. $\frac{1}{20}$
5a. $4\frac{1}{5}$ b. $2\frac{1}{3}$
6a. 108 b. 27

7a. 30 ft.
b. 54 sq. ft.

8. a
9. 65°

10a. 30,000
b. 200

605
1a. 3,000,000,000
b. 3×10^9

2a. = b. =

3a. 74
b. MDCCL

4. c

5. e

6. a

7a. 26 in.
b. 32 sq. in.

8. a

9. b

10. b

606
1a. y b. y
c. y d. y

2. 4

3. 12 − 5 = 7 or
12 − 7 = 5

4a. D b. M

5a. 31.4 in.
b. 78.5 sq. in.

6a. 34%
b. 6%
7a. .8
b. 80%

8. 16

9. 3

10. 6 hr.
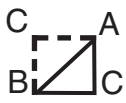
607

1. $5(4 + 8) = 60$

2. $15 + 15 + 15 = 45$

3a. 3.75

b. $3\frac{3}{4}$

4. a

5. -2, -1, 0, 1, 2

6a. -7   b. -1

7a. 24   b. 6

8. 54 m²

9. 42 in.²

10a. 81   b. 3

608

1. f
2. c
3. d
4. b

5. 6:18 or 1:3

6. 15

7a. 3570   b. .02

8. 12

9. 6.015

10a. 96   b. 8

609

1a. 0   b. 1

2a. 2, 2, 5   b. 2
c. 2   d. 2², 5

3. 58,600,000,000

4. 100

5. $16 \geq 16$, 14, 12>10

6.

7. 15 in.

8. 6 in.

9a. 5   b. 15

10a. 25
b. $\sqrt{16}$

610

1a. 1,210
b. 6.72
2a. 1.91
b. $136\frac{4}{7}$
3. 5,600
4a. 42
b. 51

5a. $\frac{37}{60}$ b. $4\frac{17}{24}$

6a. 55   b. $3\frac{3}{8}$

7a. 900
b. 1200
8. 13, 14, 15

9a. 2,721,000
b. 736,400

10. 94 sq. ft.

701

1. 405,306

2a. >
b. =
c. <

3. 27
4. 44
5. 9
6. 11
7. 9,566
8. 1,918

9. 700

10. 2,000

702

1a. 7
b. 67
c. 469
2a. 75
b. 15
c. 5
3. 27

4. 64

5. 5,400,000,000

6. 5,372
7. 68,096
8. 27 R12
9. 607 R6

10. 36

703

1. line segment

2. c

3. 17

4. right

5. c

6. 360°

7. 6 in.
8. 18.84 in.
9. 288 sq. ft.

10. 720°

704

1. $\frac{30}{54}$

2. $6\frac{3}{7}$

3. >

4. 2.2

5. .034%

6. 9:34
7. $\frac{16}{25}$

8. .0013

9. .875

10. 5,000 mg

AK9

705
1. {5, 7, 9, 11}
2. b
3. a
4. 114
5. 8
6. 7×10^6
7. 8
8. 140
9. 2^4
10. b

706
1a. $1\frac{5}{8}$ b. $15\frac{7}{9}$
2a. $\frac{17}{45}$ b. $1\frac{5}{6}$
3. 26.623
4. 1.02
5. $\frac{7}{100}$
6. $\frac{51}{200}$
7. .43
8. a / c
   d
9. $7\frac{1}{4}$ min.
10. .3 hr. or 18 min.

707
1a. $\frac{8}{15}$ b. $73\frac{1}{2}$
2a. $1\frac{1}{2}$ b. $\frac{2}{15}$
3a. 6 b. $\frac{7}{8}$
4a. 1.785
b. 309.024
5a. 35.5
b. 19.875
6a. 345.1
b. .00739
7. 7
8. 40
9. 25%
10. $284.38

708
1. 3 ft.
2. 20 in.
3. $63
4. c
5. 1:5
6. $\frac{4}{9} = \frac{12}{27}$
7. b
8. 500 mph
9. 28 in.
10. 27

709
1. c
2. 9
3. 8
4. 8
5. 22
6. (-2, 5)
7. (4, 3)
8. (-6, -4)
9. 1
10. 22

710
1. 8×10^4
2. >
3. a
4. 16
5. 56.52 in.
6a. $\frac{7}{9}$ b. $2\frac{2}{3}$
7a. $\frac{1}{6}$ b. 2
8. 6
9. Distance equals rate times time
10. 44%

801
1. 2,005,206
2. hundred thousand
3. 4
4. 490,000
5. 24 fish
6. 75
7. 58 ft.
8. 68 in.
9. 37 in.
10. 1,764 m^2

802
1. 1,614
2. c
3. 5^4
4. a
5. 17, 19, 23
6. 2^2, 3^2
7. 6
8. 120
9. $\frac{5}{6}$
10. $\frac{4}{5}$

803
1. $\frac{3}{4}$
2. $\frac{12}{42}$
3. $1\frac{4}{7}$
4. 18:72
5. $\frac{1}{8}$, $\frac{1}{2}$, $\frac{7}{12}$

   $\frac{5}{6}$, $1\frac{2}{3}$, $\frac{17}{8}$
6. .2
7. $\frac{71}{100}$
8. 40 ft.
9. b
10. 10%

804
1. $1\frac{1}{6}$
2. $618\frac{14}{15}$
3. $\frac{8}{35}$
4. $1\frac{13}{20}$
5. 779.864
6. 3.968
7. 3.1056
8. 72,050
9. $\frac{10}{5}$
10. .6

805
1. $\frac{4}{5}$
2. $58\frac{1}{2}$
3. 10.4384
4. 80.4
5. $\frac{5}{6}$
6. $1\frac{23}{26}$
7. $3,000
8. 3.6
9. 64
10. 17.5%

806
1. 32
2. 28
3. 41
4. 4 in 14
5. 3:10
6. 5:10
7. 200
8. 5, 8, 11
9. (-5, -2)
10. 2:5

807
1. b
2. -15, -8, -6
   0, 2, 5, 10
3. 32
4. 15
5. 13
6. 0
7. -27
8a. (-1, 6)
b. (2, -3)
9. -19
10. -3

808
1. 30 sq. ft.
2. 120 m^2
3. 25.748 cm
4. 19.625 sq. ft.
5. 9 cu. ft.
6. c
7. c
8. 10 yds.^{3}
9. c
10. a

809
1. 82
2. $\frac{2}{3}$
3. $\frac{N}{3} + 6$
4. $3N - 5$
5. $2\frac{1}{2}$
6. 1
7. $xy + 2x$
8. $x = -3$
9. c
10. 840 min. or
    14 hr.

810
1. 160%
2a. 16 b. 27
3. 206.0 cm^2
4. 672 in.^{3}
5. $xy - 4x + 3y$
   $- 12$
6. $4N + 2 = N - 1$
7. -6, 9, 0
8. 3, 4, 5, 6
9. 5×10^6
10. 6

_____   _____
Student Name   Age

_____   _____
Date   Grade Last Completed

	100	200	300	400	500	600	700	800
	___	___	___	___	___	___	___	___
	___	___	___	___	___	___	___	___
	___	___	___	___	___	___	___	___
	___	___	___	___	___	___	___	___
	___	___	___	___	___	___	___	___
	___	___	___	___	___	___	___	___
	___	___	___	___	___	___	___	___
	___	___	___	___	___	___	___	___
	___	___	___	___	___	___	___	___
	___	___	___	___	___	___	___	___

TOTAL   ___   ___   ___   ___   ___   ___   ___   ___
SCORE

GRADE LEVEL PLACEMENT: A student can be placed academically using the rule that he/she has successfully passed the test for any given level if he/she achieves a **Total Score of 70 points or more**.

This student places at grade level _____.

LEARNING GAPS: Learning gaps can be easily identified with the placement test. If a student receives **points of 6 or less** on any individual test, he/she has not shown mastery of the skills in that particular LIFEPAC. If desired, these LIFEPACs may be ordered and completed before the student begins his assigned grade level curriculum.

Learning gap LIFEPACs for this student are _____ _____   _____ _____

_____ _____   _____ _____

It is not unusual for a student to place at more than one level in various subjects when beginning the LIFEPAC curriculum. For example, a student may be placed at 5th level in Bible, mathematics, science and social studies but 4th level in language arts. The majority of school time should be concentrated on the areas of lower achievement with the ultimate goal of equal skill mastery in all subjects at the same grade level.

501

1. **Describe the number** 345 **in the problem** 345 – 256 = 89**?**
   a. minuend   **b.** quotient   **c.** subtrahend   **d.** product ?

   1. _____

2. **What is the place value of the** 5 **in the number** 452,673**?**

   2. _____

3. **Select a composite number from** 2, 5, 7, 18, 23.

   3. _____

4. **What is the next number in the sequence** 36, 39, 43, 46, 50,.... **?**

   4. _____

5. N + 12 = 39. **What operation do you use to solve for N?**
   a. add   **b.** subtract   **c.** multiply   **d.** divide

   5. _____

6. **a.** $\frac{3}{7} + \frac{2}{7} =$ **b.** $\frac{10}{16} - \frac{3}{16} =$

   6a. _____ b. _____

7. **Select the correct symbol.** 689,348 **(>, <)** 689,438.

   7. _____

8. **Write in digits.**   Six hundred thousand, fifty-nine.

   8. _____

9. **Round to the hundreds' place.**   413

   9. _____

10. **Round to the nearest thousand.**
    Find the *estimated* **answer.** 9,526 – 5,329 =

    10. _____

502 **Solve.**

1.   429
       x 67

   2.   7)‾2975

   1. _____
   2. _____
   3. _____
   4. _____

3. **Round to the thousands' place.**   7,852

4. $\frac{9}{5}$ **is an example of**   **a**. a proper fraction
   b. an improper fraction   **c.** a mixed number

5. **a.** $\frac{6}{9}$ **b.** $\frac{19}{24}$ 6. **a.** $2\frac{3}{7}$ **b.** $8\frac{2}{3}$

      $+ \frac{3}{9}$ $- \frac{7}{24}$ $+ 4\frac{1}{7}$ $- 5\frac{1}{3}$

   5a. _____ b. _____

   6a. _____ b. _____

7. **The distance between two intersecting rays is**
   a. a polygon   **b.** a circle   **c.** an angle   **d.** a radius

   7. _____

8. **A closed plane figure with three or more sides is**
   a. a cube   **b.** an angle   **c.** a circle   **d.** a polygon

   8. _____

9. $\frac{5}{8}$ **(=, ≠)** $\frac{4}{5}$

   9. _____

10. **a.** $(9 \times 4) - 6 =$ _____   **b.** $(\frac{28}{7}) \times 2 =$ _____

    10a. _____
    b. _____

21

503

1. **Show two ways** eighteen divided by nine **can be written in digits.**   1. _____

2. **Round to the hundreds' place.**   548,371   2. _____

3. **Reduce.**   a. $\dfrac{8}{12}$ b. $\dfrac{16}{10}$ 3a. _____ b. _____

4. **What is the smallest common multiple of** 4 **and** 6**?**   4. _____

5. **Solve and simplify.**

   a. $9\dfrac{1}{6}$ b. $5\dfrac{11}{14}$ 6. a. $7\dfrac{1}{2}$ b. $6\dfrac{7}{8}$ 5a. _____ b. _____

   $+\,3\dfrac{2}{6}$ $-\,2\dfrac{4}{14}$ $+\,4\dfrac{2}{3}$ $-\,1\dfrac{3}{4}$ 6a. _____ b. _____

7. **Find the average.**   13, 18, 26, 39   7. _____

8. $(12 + 3) + 5$ **(=, ≠)** $12 + (3 + 5)$ 8. _____
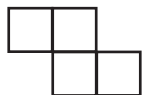
   □ = 1 square inch.

9. **Find the perimeter.**   10.   **Find the area.**   9. _____

   10. _____

504

Select the correct answer (1 -5).

1. **A triangle with no equal sides**   **a.** 90 degrees   1. _____
                                               b. congruent
2. **A right angle**   **c.** 360 degrees   2. _____
                                               d. scalene
3. **The measurement from the center of the** **e.** radius   3. _____
   circle to the curve   **f.** parallel
4. **Two figures with the same size and shape** **g.** diameter   4. _____
                                               h. similar
5. **Two lines always the same distance apart**   5. _____

6. **Write in digits or words.**
   a. six and two hundredths   **b.** .045   6a. _____
                                                          b. _____
7. **Solve.**   **a.** $3.4 + .24 + 35 =$ **b.** $73.2 - 49.35 =$ 7a. _____
                                                                             b. _____
8. **Write the equivalent in Roman numerals.**   8a. _____
   a. 1,520   **b.** 279   b. _____

9. **Write the place of the underlined digit.**   395,276,834   9. _____

10. $4 \times (3 \times 5)$ **(=, ≠)** $(4 \times 3) \times (5 \times 0)$ 10. _____

22

505

Solve.

1. **a.** $10 \times 35 =$ **b.** $100 \times 425 =$

2. $\begin{array}{r} 635 \\ \times\ 427 \\ \hline \end{array}$ 3. $\begin{array}{r} 6\frac{1}{4} \\ -\ \frac{3}{4} \\ \hline \end{array}$

4. **a.** 1 yd. = _____ ft.   **b.** 1 lb. = _____ oz.   **c.** 1 qt. = _____ pt.

Solve. Simplify your answer.

5. $\begin{array}{r} 16 \text{ yd.} \quad 19 \text{ in.} \\ +\quad 4 \text{ yd.} \quad 20 \text{ in.} \\ \hline \end{array}$ 6. $\begin{array}{r} 26 \text{ gal.} \quad 2 \text{ qt.} \\ -\quad 5 \text{ gal.} \quad 3 \text{ qt.} \\ \hline \end{array}$

7. **Write one** (1) **as a fraction with a denominator of** 9.

8. **Write the formula for a rectangle.**
   a. Perimeter = _____   **b.** Area = _____

9. **Time** = 4 hr.   **Rate** = 45 mph   **Distance** = _____

10. **Write the measure of** angle DBC.

       $\angle ABC = 68°$
       $\angle ABD = 28°$
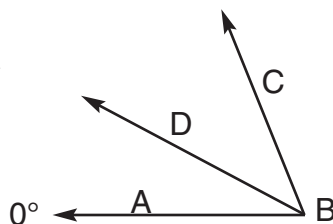
1a. _____
b. _____
2. _____
3. _____
4a. _____
b. _____
c. _____
5. _____
6. _____
7. _____
8a. _____
b. _____
9. _____
10. _____

506

1. **Length** = 4 ft.   **Width** = 3 ft.   **Height** = 6 ft.   **Volume** = _____
                                                    of the box

2. **Area of a rectangle** = 72 sq. ft.   **Length** = 9 ft.   **Width** = _____.

3. **Solve and simplify.**   **a.** $\begin{array}{r} 7\frac{1}{6} \\ -\ 3\frac{5}{6} \\ \hline \end{array}$ **b.** $\begin{array}{r} 6\frac{1}{5} \\ -\ 3\frac{3}{10} \\ \hline \end{array}$

4. **The ratio of** girls **to** boys **is** 2:3.
   There are 12 boys. **How many** girls **are there?**

5. **a.** $\frac{3}{5} \times \frac{5}{9} =$ **b.** $\frac{2}{3} \times \frac{15}{16} =$

6. **Write the place value of the underlined digit.**   645.23$\underline{4}$

Solve.

7. $\begin{array}{r} 9.05 \\ +\ 4.2 \\ \hline \end{array}$ 8. $\begin{array}{r} 19.6 \\ -\ 13.48 \\ \hline \end{array}$

9. $\begin{array}{r} 6.5 \\ \times\ .32 \\ \hline \end{array}$ 10. $\begin{array}{r} 7.9 \\ \times\ 45 \\ \hline \end{array}$

1. _____
2. _____
3a. _____
b. _____
4. _____
5a. _____ b. _____
6. _____
7. _____
8. _____
9. _____
10. _____

507

1. $80\overline{)590}$

2. $46\overline{)938}$

3. **a.** $3.2 + 5.85 + 6 =$

   b. $\begin{array}{r} 3.4 \\ -\ .45 \\ \hline \end{array}$

4. **a.** $\begin{array}{r} .043 \\ \times\ .51 \\ \hline \end{array}$

   b. $\begin{array}{r} 3.2 \\ \times\ .45 \\ \hline \end{array}$

5. $\begin{array}{r} 4{,}672 \\ \times\ \ \ 85 \\ \hline \end{array}$

6. $\begin{array}{r} 6\frac{1}{8} \\ -\ 4\frac{1}{2} \\ \hline \end{array}$

7. $\frac{5}{9}$ **(>, <)** $\frac{3}{5}$

8. **a.** $\frac{2}{3}$ of 15

   b. $8 \times \frac{7}{10}$

9. **a.** $4\frac{2}{5} \times \frac{10}{11} =$

   b. $4\frac{3}{8} \times 11\frac{1}{5} =$

10. $18 + 27 + 36 + N = 135$ $N =$ _____

1. _____
2. _____
3a. _____
 b. _____
4a. _____
 b. _____
5. _____
6. _____
7. _____
8a. _____
 b. _____
9a. _____
 b. _____
10. _____

508

Questions 1-2 test the student's ability to use a calculator. If no calculator available, complete without.

1. **a.** $64 + 5 + 326 =$ **b.** $52.5 \times .42 =$
2. **a.** $76.85 - .043 =$ **b.** $3{,}403 \div 83 =$

3. **Identify the dotted line as**
   a. radius   **b.** chord   **c.** arc

4. **The diameter of the circle is** 10 in. **What is the perimeter?**

5. **The base of the triangle is** 5 in. **The height is** 6 in. **What is the area?**

6. **a.** $1\ m =$ _____ cm   **b.** $1\ g =$ _____ mg

7. $3\overline{)7.02}$

8. **Use the factor box. Find the prime factors of** 12.

9. $35\overline{)289}$ 10. $71\overline{)856}$

1a. _____
 b. _____
2a. _____
 b. _____
3. _____
4. _____
5. _____
6a. _____
 b. _____
7. _____
8. _____
9. _____
10. _____

24

509

1. Name the reciprocal of   **a.** $\frac{5}{9}$ **b.** 7

2. **a.** $7 \div \frac{14}{15} =$ **b.** $\frac{5}{12} \div 15 =$

3. **a.** $\frac{8}{9} \div 4\frac{2}{3} =$ **b.** $6\frac{3}{7} \div 2\frac{2}{14} =$

4. **a.** $10 \times 3.45 =$ **b.** $100 \times 5.6 =$

5. **a.** $6\overline{)13.2}$ **b.** $5\overline{).130}$

6. **a.** Write the coordinates of point A.
   b. Write the coordinates of point B.
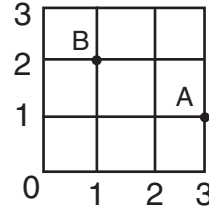
7. **Distance** = 162 mi.   **Time** = 3 hr.   **Rate** = _____

8. Write $\frac{1}{4}$ as: **a.** a ratio   **b.** a decimal.

9. Write .52 **as: a** a fraction **b.** percent.

10. There are 8 white marbles and 4 green marbles in a bag. Express the ratio of green marbles to white marbles as a fraction reduced to lowest terms.

1a. _____ b. _____
2a. _____ b. _____
3a. _____ b. _____
4a. _____
 b. _____
5a. _____ b. _____
6a. _____
 b. _____
7. _____
8a. _____
 b. _____
9a. _____
 b. _____
10. _____

510

Match (1 - 6).

1. Comparison of two numbers   **a.** data
     b. circle graph
2. Facts from which a conclusion   **c.** estimation
   may be drawn   **d.** ratio
     e. bar graph
3. Every member of a group has an   **f.** random sample
   equal chance of being chosen

4. An opinion of the value of something

5. Illustrated data using wide lines

6. Illustrated data comparing parts to the whole

7. A bag holds 4 quarters, 2 dimes, 1 nickel, 3 pennies. State as a ratio the probability of a quarter being selected from the bag.

8. State the probability as a percent.

9. $41\overline{)8,938}$

10. **a.** $9(8) =$ **b.** $7 \cdot 6 =$

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10a. _____
 b. _____

25

601

1. **Write the place of the underlined digit.** 23,6̲75,298,013

   1. _____

2. **Round.**   48
   Write the *estimated* answer. $\times$ 62

   2. _____

3. **a.** 9 • 5 **(=, ≠)** 52 − 7   **b.** 14 + 8 **(>, <)** 42 ÷ 2

   3a. _____ b. _____

4. **a.** (4 +3) $\times$ (15 − 6) =   **b.** (14 ÷ 2) + (8 − 3) =

   4a. _____ b. _____

5. N ÷ 45 = 81   **N =**

   5. _____

6. **a.** 706   **b.** $23\overline{)958}$
      $\times$ 592

   6a. _____
   b. _____

7. **Write the largest multiple of** 8 **that is less than** 52.

   7. _____

8. **List in number order. a.** .8   **b.** .46   **c.** .09   **d.** .637

   8. _____

9. $1\frac{7}{8}$ **is a: a.** proper fraction **b.** improper fraction **c.** mixed number

   9. _____

10. **Simplify.**   **a.** $\frac{24}{30}$ **b.** $\frac{14}{8}$

    10a. _____ b. _____

602

1. **Round.** 38,294,672,551 + 53,238,094,776 = _____ billions
   Write the *estimated* answer.

   1. _____

2. **Write (E) even or (O) odd.**
   a. E + E = ____   **b.** E − O = ____   **c.** E + O = ____   **d.** O − O = ____

   2a. _____ b. _____
   c. _____ d. _____

3. **Describe what James ate as a fraction.**
   a.   James divided the apple into 4 parts. He ate 3.
   b.   James had 4 apples. He ate 1.

   3a. _____ b. _____

4. **List in number order.   a.** $\frac{5}{6}$ **b.** $\frac{3}{4}$ **c.** $\frac{7}{12}$ **d.** $\frac{2}{3}$

   4. _____
   _____

5. **a.** $4\frac{1}{2}$ **b.** $7\frac{1}{3}$
          $+\,3\frac{5}{8}$ $-\,4\frac{5}{6}$

   5a. _____ b. _____

6. .03 = **a.** three-tenths   **b.** .030   **c.** $\frac{3}{1,000}$

   6. _____

7. **a.** 8.4 + 2.03 + 9 =   **b.** .74 − .286 =

   7a. _____
   b. _____

8. **a.** 2.7 $\times$ .04 =   **b.** 5.9 $\times$ .38 =

   8a. _____
   b. _____

9. **Find the prime factors of** 45.

   45

   9. _____

10. **Write** 2 $\times$ 2 $\times$ 3 $\times$ 3 $\times$ 3 **in exponential notation.**

    10. _____

603

☐

1. Find the average of 212, 147, 172, 193.

   1. _____

2. a. $9 \times \frac{2}{3} =$ b. $8\frac{2}{5} \times 4\frac{1}{6} =$

   2a. _____ b. _____

3. Round to   a. the nearest whole number $28\frac{9}{16}$

          b. tenths' place   .378

   3a. _____
   b. _____

4. Convert $\frac{3}{8}$ to a decimal.

   4. _____

5. a. $1,000 \times .56 =$ _____   b. $78.3 \div 100 =$

   5a. _____
   b. _____

6. a. $2\overline{)6.78}$ b. $8\overline{)29.3}$

   6a. _____
   b. _____

7. Write the number sentence for the set of numbers equal to **or** greater than 5 **but** *less than* 9. $5 \leq$ _____ < 9

   7. _____

8. Using a ratio of 3:5, how many goldfish would be in a tank of 20 fish?

   8. _____

9. **Match.** Line AB **is perpendicular to** Line CD.

   a. $\overleftrightarrow{AB} \parallel \overleftrightarrow{CD}$ b. $\overleftrightarrow{AB} \cong \overleftrightarrow{CD}$ c. $\overleftrightarrow{AB} \perp \overleftrightarrow{CD}$ d. $\overline{AB} \perp \overline{CD}$

   9. _____

10. Find the equations.

   a. $\frac{8}{2} = 4$ b. $16 \cdot 2 = 3 \cdot 8$ c. $2^3 = 8$ d. $2 \times 4 = 36 \div 6$

   10. _____

604

☐

1. a. $.4\overline{)3.264}$ b. $.03\overline{).756}$

   1a. _____
   b. _____

2. $\overline{.333}$ is a (a. terminating   b. repeating) **decimal.**

   2. _____

3. a. $\frac{6}{9} = \frac{N}{12}$ $N =$ _____

   3. _____

4. a. $\frac{8}{15} \div \frac{1}{3} =$ b. $\frac{4}{5} \div 16 =$

5. a. $2\frac{2}{5} \div \frac{4}{7} =$ b. $6\frac{2}{9} \div 2\frac{2}{3} =$

   4a. _____ b. _____

6. a. $[2 \times 6 (6 + 3)] =$ b. $5 \times 3 + 6 \times 2 =$

   5a. _____ b. _____

7. **A rectangle measures:** length 9 feet, width 6 feet.
   a. **Find the perimeter.**   b. **Find the area.**

   6a. _____ b. _____

8. **Identify the triangle as**
   a. scalene   b. isosceles   c. equilateral

   7a. _____
   b. _____

9. **Write the measure of** angle RSN.

      $\angle MSR = 55°$
      $\angle MSN = 120°$

   8. _____
   9. _____

10. **Round.**   a. 5,243   b. $6,371 \div 32$
   Find the *estimated* **answer.** $\times\ 56$

   10a. _____
   b. _____

605

1. a. **Round to the billions' place.** 3,488,763,295
   b. **Then, write in exponential notation using powers of ten.**
2. a. 5×4 **(=, ≠)** 4×5 b. $2 \times (3 \times 4)$ **(=, ≠)** $(2 \times 3) \times 4$
3. **Convert to Roman or Arabic numerals.** a. LXXIV b. 1750.
   Select the correct answer from the following list (4 - 6).

   a. arc   b. chord   c. radius
   d. pi   e. circumference
4. **Half of the diameter of a circle**
5. **The distance around the outside of a circle**
6. **Curved section of the perimeter of a circle**
7. **Find the**   a. perimeter   b. area

   2 in
   5 in
   6 in
   4 in

8. **Select a triangular prism.**
   a.   b.   c.

9. **The number exactly in the middle of a set is the**
   (a. mean   b. median   c. mode)
10. **The basic metric unit most similar to a quart is the**
    (a. gram   b. liter   c. meter)

1a. _____
b. _____
2a. _____ b. _____
3a. _____
b. _____
4. _____
5. _____
6. _____
7a. _____
b. _____
8. _____
9. _____
10. _____

606

1. **Use the rules of divisibility. Write (Y) yes or (N) no.**
   Is 270 **divisible by** a. 2? b. 3? c. 6? d. 9?

2. **What is the value of the** variable a
   in the function table?

+	2	5	1	4
a	6	9	5	8

3. **Write an inverse operation for** $7 + 5 = 12$.

4. **Write (M) multiply or (D) divide. To change**
   a. meters to kilometers   b. grams to milligrams
5. **The radius of a circle measures** 5 inches.
   a. Circumference   b. Area

6. **Write in percent.**   a. .34 b. $\dfrac{6}{100}$

7. **Write** $\dfrac{4}{5}$ **as**   a. decimal   b. in percent

8. 64% **of the** 25 students **attended music camp.**
   How many of the students attended music camp?
9. $\dfrac{n}{15} = \dfrac{2}{10}$ $n =$ ____

10. **Distance** = 342 miles   **rate** = 57 mph   **time** = ____

1a. _____ b. _____
c. _____ d. _____
2. _____
3. _____
_____
4a. _____ b. _____
5a. _____
b. _____
6a. _____
b. _____
7a. _____
b. _____
8. _____
9. _____
10. _____

28

607

1. **Rewrite the problem using** $(5 \times 4) + (5 \times 8) = 60$ **its distributive property.**

1. _____

2. **Rewrite** $3 \times 15 = 45$ **in repeated addition.**

2. _____

3. **Write** 375% **as a**   **a.** decimal   **b.** mixed number fraction

3a. _____

b. _____

4. **A quadrilateral**   **a.** is any 4-sided figure
   b. must have 4 right angles   **c.** must have opposite sides parallel

4. _____

5. **Write in number order.**   1, 0, -2, -1, 2

5. _____

6. **a.** (-4) + (-3) =   **b.** (-6) + 5 =

6a. _____ b. _____

7. **How many time zones is the**   **a.** world divided into?
   b. United States divided into?

7a. _____ b. _____

8. **A parallelogram measures:**   base 6 meters, height 9 meters
   Area = _____

8. _____

9. **A triangle measures:**   base 12 inches, height 7 inches
   Area = _____

9. _____

10. **What is the**   **a.** square of 9?   **b.** square root of 9?

10a. _____ b. _____

Select the correct word for the blank.
a. problem   b. norm   c. ratio
**d. data   e. chart   f. random selection**

608

1. **Without deliberate choice**

1. _____

2. **Relation between two numbers**

2. _____

3. **Facts from which a conclusion can be drawn**

3. _____

4. **Standard of a particular group**

4. _____

5. 18 **marbles are in a bag:** 5 white, 4 green, 6 red, 2 black, 1 yellow.
   One marble is drawn out. What is the probability that it will be red?

5. _____

6. **Use data from the graph. How many times did Richard bat altogether?**

6. _____

7. **a.** 3.57 g = _____ mg   **b.** 2 cm = _____ m

7a. _____ b. _____

8. $\frac{2}{3}$ **of a number is equal to** 8. **What is that number?**

8. _____

9. **Round to the nearest decimal place.** $6.014 \frac{3}{5}$

9. _____

10. **The numbers are 24 and 32. Find the**
    a. least common multiple **b.** greatest common factor (GCF)

10a. _____ b. _____

609

1. Ratio, proper fractions, decimals, and percent **represent all of the numbers between** a. _____ b. _____.

2. **The** base factors **for** 20 **are (a.)** _____. **The** repeated factors **are (b.)** _____. **The** exponents **are (c.)** _____. **Written in** exponential notation **is (d.)** _____

3. **Round to hundred millions' place.** 58,637,429,302

4. **Write the factor to multiply the number by to approximately reach the given product.** 28 × _____ = 3,000

5. **Select from the symbols** (>, <, ≥, ≤) **to write a number sentence for the set of** even numbers *equal to* or *less than* 16 but *greater than* 10.

6. **Draw an illustration.**
   **Reflect** ABC **using** AB **as a line of symmetry.**
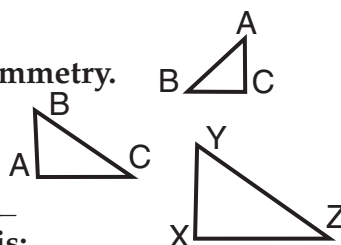
7. ΔABC ≅ Δ XYZ
   The ratio is 2:5 AB = 6 in XY = _____

8. **The measure of a rectangular prism is:**
   Volume 72 cu. in., length 4 in., width 3in., height = _____

9. **Kevin ate** 3 times **as many olives as Jodi. Together, they ate** 20 olives. **a.** Jodi ate _____ olives. **b.** Kevin ate _____ olives.

10. **a.** **Select the perfect square.** 12 18 25 32
    b. **Write the number 16 using the radical sign.**

1a. _____ b. _____
2a. _____ b. _____
   c. _____ d. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9a. _____ b. _____
10a. _____
b. _____

610

Solve Problems 1 - 2 mentally (without rewriting).

1. **a.** 238 + 463 + 509 = **b.** 9.3 − 2.58 =

2. **a.** .5 × 3.82 = **b.** 956 ÷ 7

3. **Write the largest multiple of** 700 **that is less than** 5,703.

4. **a.** $386\overline{)16212}$ **b.** $823\overline{)41973}$

5. **a.** $\dfrac{4}{15}$ **b.** $9\dfrac{3}{8}$
      $+\dfrac{7}{20}$ $-4\dfrac{2}{3}$

6. **a.** $2\dfrac{3}{4} \times 20 =$ **b.** $18 \div 5\dfrac{1}{3} =$

7. **a.** $\dfrac{3}{8} \times 2400 =$ **b.** $\dfrac{4}{5}$ of 1500 =

8. **Use the variable** b **to represent a range of numbers.**
   James is older than 12 years **but younger than** 16 years.
   How old is James? $b =$ _____

9. **a.** 907 **b.** 263
      $\times 3,000$ $\times 2,800$
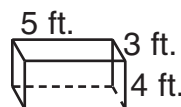
10. **Find the total area of the surface of the prism.**

5 ft. 3 ft. 4 ft.

1a. _____
b. _____
2a. _____
b. _____
3. _____
4a. _____
b. _____
5a. _____ b. _____
6a. _____ b. _____
7a. _____
b. _____
8. _____
9a. _____
b. _____
10. _____

701

Write the number represented by the expanded form.

1. $4 \times 100{,}000 + 5 \times 1{,}000 + 3 \times 100 + 6$

1. _____

Write the correct symbol to make the sentences true. (>, <, =)

2. **a.** $8 \_\_ 7$ **b.** $14 \_\_\_ 14$ **c.** $24 \_\_\_ 29$

2a. _____

b. _____

c. _____

Complete the table for the given sentence.

$a - b = 25$

$a =$	52	69	34
$b =$	3._____	4._____	5._____

3. _____

4. _____

5. _____

Find the number that makes the sentence true.

6. $18 + 5 + 14 + N = 48$

6. _____

7. **Find the sum** of 5,742 and 3,824.
8. **Find the difference** of 5,742 and 3,824.

7. _____

8. _____

9. **Find the** *estimated* **answer** of $492 + 220$ **to the nearest hundred.**

9. _____

10. **Find the** *estimated* **answer** of $6{,}443 - 3{,}861$ **to the nearest thousand.**

10. _____

702

1. **In the multiplication problem** $67 \times 7 = 469$, **what is the**
a. multiplier   **b.** multiplicand   **c.** product **?**

1a. _____

b. _____

c. _____

2. **In the division problem** $75 \div 5 = 15$, **what is the**
a. dividend   **b.** quotient   **c.** divisor **?**

2a. _____

b. _____

c. _____

3. **What is the missing number in the sequence** 1, 3, 9, __, 81, 243...?

3. _____

4. **What is the product of the exponential number** 4^3?

4. _____

5. **What is the product of the exponential number** 54×10^8?

5. _____

What is the answer to
6. $79 \times 68 =$
7. $896 \times 76 =$
8. $525 \div 19 =$
9. $47{,}352 \div 78 =$

6. _____

7. _____

8. _____

9. _____

10. **If your classroom had** 38 **pupils and** 1 **was absent on Monday,** 2 **on Tuesday,** 4 **on Wednesday,** 0 **on Thursday, and** 3 **on Friday, what was the average daily attendance?**
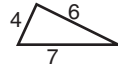
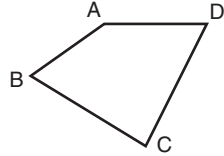10. _____

703

1. What is the name of *AC* and/or *DB*?

   A   C   D   B

   1. _____

2. What do we use to measure an angle?
   a. ruler   **b.** scale   **c.** protractor

   2. _____

3. What is the perimeter of the triangle?

   4 6 7

   3. _____

4. What is the name of a triangle that has one angle equal to 90° ?

   4. _____

5. The name of

   A   D   B   C   is

   a. parallelogram ABCD   **b.** trapezoid ABCD
   c. quadrilateral ABCD   **d.** rectangle ABCD

   5. _____

6. What is the sum of the angles of a quadrilateral?

   6. _____

7. What is the diameter of a circle if the radius is 3 inches?

   7. _____

8. What is the circumference of a circle with a radius of 3 inches?

   8. _____

9. What is the area of a rectangle with dimensions of 16 ft. **and** 18 ft.?

   9. _____

10. What is the sum of the angles of a hexagon?

    10. _____

704

1. Raise $\frac{5}{9}$ to higher terms with a denominator of 54.

   1. _____

2. Find the quotient of $\frac{45}{7}$.

   2. _____

3. Select the correct symbol. $\frac{7}{8}$ $(<, >)$ $\frac{7}{9}$.

   3. _____

4. Write $2\frac{1}{5}$ as a decimal.

   4. _____

5. Write .00034 **as a percent.**

   5. _____

6. Show the ratio of 9 nickels to 34 pennies.

   6. _____

7. Write 64% **as a fraction reduced to lowest terms.**

   7. _____

8. Write .13% **as a decimal.**

   8. _____

9. What is the decimal equivalent to the fraction $\frac{7}{8}$?

   9. _____

10. **Convert** 5 grams **to milligrams.**

    10. _____

32

705

1. Show how a set is written if the elements of the set are 5, 7, 9, 11.

2. Given A= {1, 2, 3, 4, 5,}, **a subset of** A **would be**
   a. {1, 2, 3, 4, 5, 6}   c. {0}
   b. {1, 2, 3}   d. {2, 4, 6, 8}

3. The intersection of sets A = {3, 4, 5, 6, 7} **and** B = {3, 6, 9, 12} **is**
   a. {3, 6}   c. {3, 4, 5, 6, 7, 9, 12}
   b. {3, 4, 5, 6, 7}   d. an empty set

4. Write CXIV **in Arabic numerals.**

5. Write a number that is 10,000 times **larger than** .0008 .

6. Show 7,000,000 **as a power of** 10.

7. What is the greatest common factor **of** 24 **and** 64?

8. What is the least common multiple **of** 20 **and** 28?

9. List the prime factors of 16 **using exponential notation.**

10. 58 **is an example of a (a.** prime **b.** composite **) number.**

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

706

1. a. $\dfrac{3}{4}$ b. $9\,\dfrac{1}{3}$ 2. a. $\dfrac{7}{15}$ b. $3\,\dfrac{7}{12}$

   $+\dfrac{7}{8}$ $+6\,\dfrac{4}{9}$ $-\dfrac{4}{45}$ $-1\,\dfrac{3}{4}$

3. Add: 21.023 + 5.6 =   4. Subtract 4.3 − 3.28 =

5. Write the decimal fraction .07 **as a common fraction.**

6. Write the decimal .255 **as a common fraction in lowest terms.**

7. Write the common fraction $\dfrac{3}{7}$ **as a decimal fraction to the nearest hundredth.**

8. From the list of fractions and decimals, find three that are equivalent in value.

   a. $\dfrac{5}{8}$ b. $\dfrac{1}{4}$ c. 0.625   d. $\dfrac{25}{40}$ e. .0625   f. $\dfrac{25}{64}$

9. A radio announcer takes $2\,\dfrac{7}{8}$ minutes **to play each record and** $1\,\dfrac{1}{2}$ minutes **to read a commercial. How long does he take to** read a commercial and play two records?

10. The first game of a double-header lasted 2.1 hours. **The second** game lasted only $1\,\dfrac{4}{5}$ hours. How much longer was the first game than the second game?

1a. _____ b. _____
2a. _____ b. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____ / _____
   _____
9. _____
10. _____

707

1. a. $\dfrac{2}{3} \times \dfrac{4}{5} =$ b. $12 \times 6\dfrac{1}{8} =$

2. a. $\dfrac{3}{8} \div \dfrac{1}{4} =$ b. $\dfrac{4}{5} \div 6 =$

3. a. $5\dfrac{2}{3} \times 1\dfrac{1}{17} =$ b. $2\dfrac{3}{8} \div 2\dfrac{5}{7} =$

4. a. $.85 \times 2.1 =$ b. $41.76 \times 7.4 =$

5. a. $83.78 \div 2.36 =$ b. $3.18 \div .16 =$

6. a $3.451 \times 100 =$ b. $7.39 \div 1,000 =$

Find the missing number.

7. 25% of 28 = N

8. 20 = 50% of N

9. 24 = N% of 96.

10. **Debra earns a** 6.5% **commission. One week, her total sales were** $4,375. **How much did she earn that week?**

1a. _____ b. _____
2a. _____ b. _____
3a. _____ b. _____
4a. _____
b. _____
5a. _____
b. _____
6a. _____
b. _____
7. _____
8. _____
9. _____
10. _____

708

1. **If the area is** 24 sq. ft. **and the length is** 8 ft., **what is the width?**
2. **If a square is** 5 in. **on a side, what is its perimeter?**
3. **How much interest will be paid on** $350 **if the rate of interest is** 18%?

4. **Of the following choices, which one is an equation?**
    a. 4   **b.** xy   **c.** $14 = 2 \times 7$ **d.** $(3 + 5) \times 8$
5. **What is the ratio** 15:75 **reduced to lowest terms?**

6. **Write the proportion:** Four is to nine as twelve is to twenty-seven.
7. **Which of these is a true proportion?**
    a. 6:12 = 20:30   **b.** 2:3 = 8:12   **c.** 1:5 = 5:1   **d.** 6:8 = 24:34

8. **What is the approximate rate of travel of an airplane that goes** 1,800 miles **in** 3.5 hours?

9. **Jody plans to have a picture enlarged. The picture is now** 2 in. wide by 3 in. long. **When enlarged, the length will be** 42 in. **What will be the width?**

10. **The ratio of hamsters to gerbils in a pet shop is** 1:3. **If the pet shop has** 9 hamsters, **how many gerbils does it have?**

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

34

709

1. A selection in which every member of a large group has an equal chance of being chosen is called a
   a. frequency   b. biased sample   c. random sample   d. graph

1. _____

Find the following information about the numbers.

      8   10   5   8   12   8   12

2. What is the mean?

2. _____

3. What is the median?

3. _____

4. What is the mode?

4. _____
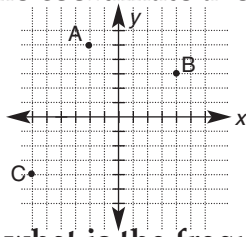
5. What is the range for the following set of numbers?

      6   7   3   24   13   12
      13   14   2   7   9   10

5. _____

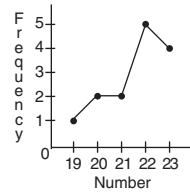Identify points on the coordinate axes.

6. Point A

7. Point B

8. Point C

6. _____

7. _____

8. _____

On the line graph

9. If the number is 19, what is the frequency?

10. If the frequency is 5, what is the number?

9. _____

10. _____

710

1. Write this number in expanded notation.   80,000

2. 7,062   (<, >)   6,974

1. _____

3. A quadrilateral with four sides equal and parallel.
   a. square   b. rectangle   c. parallelogram   d. trapezoid

2. _____

4. Find the greatest common factor for 16 and 48.

3. _____

5. The diameter of a regulation basketball hoop is 18 in. What is the circumference of the hoop?

4. _____

6. a. $\dfrac{2}{3}$ b. $5\,\dfrac{4}{5}$

   $+\dfrac{1}{9}$ $-\,3\,\dfrac{2}{15}$

5. _____

7. a. $\dfrac{4}{9} \times \dfrac{3}{8}$ b. $7\,\dfrac{1}{3} \div 3\,\dfrac{2}{3}$

6a. _____   b. _____

8. Find the missing term in the following equation.
      3:18 = ___:36

7a. _____   b. _____

9. Write the words to this formula. D = R x T

8. _____

10. Rhonda attempted 9 field goals and made 4. What was her field goal percentage?

9. _____

_____

10. _____

35

801

1. **Write in numerals:** two million, five thousand, two hundred six.

2. **What is the position of the** 5 **in the number** 500,493?

3. **How many digits in** 8,720?

4. **Round** 489,045 **to the nearest ten thousand.**
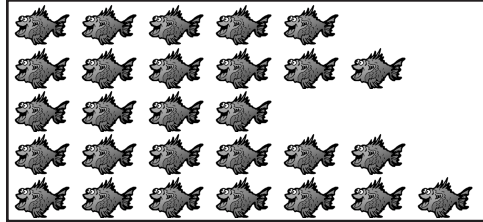
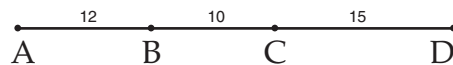5. **How many fish did Bill Knox catch on Thursday?**

Monday

Tuesday

Wednesday

Thursday

Friday

each [fish] represents 4 fish

6. **Find the quotient of** 27 and 2025.

7. **How many feet in** 696 inches?

8. **If the perimeter of a square is** 272 in., **what is the length of each side?**

9. AB = 12 in., BC = 10 in. and CD = 15 in. **What is the length of** AD?

$$\overset{12}{\underset{A}{\bullet}} \quad \overset{10}{\underset{B}{\bullet}} \quad \underset{C}{\bullet} \quad \overset{15}{\underset{D}{\bullet}}$$

10. **A pyramid has a square base with an edge of** 42 meters. **Find the area of the base.**

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

802

1. **Write** MDCXIV **in Arabic numerals.**

2. **The number** 15 **in the base two number system is** (**a.** 10000_2 **b.** 1011_2 **c.** 1111_2 **d.** 1101_2).

3. **Write the following in exponential form:** $5 \times 5 \times 5 \times 5$

4. $(2 + 6) + 3 = 2 + (6 + 3)$ **is an example of the** (**a.** associative **b.** commutative) **property of addition.**

5. **List three prime numbers between** 16 and 24.

6. **Write** 36 **in prime factorization.**

7. **What is the square root of** 36?

8. **What is the lowest common denominator of** $\frac{7}{8}$, $\frac{9}{10}$, $\frac{1}{12}$?

9. **Reduce the fraction** $\frac{85}{102}$ **to lowest terms.**

10. **What is the next number in the number pattern** $\frac{1}{2}$, $\frac{2}{3}$, $\frac{3}{4}$, ... ?

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

36

803

1. What is the smallest fraction equivalent to $\frac{6}{8}$, $\frac{15}{20}$, and $\frac{21}{28}$?

2. Raise the fraction $\frac{2}{7}$ to higher terms with a denominator of 42.

3. Write the improper fraction $\frac{11}{7}$ as a mixed number.

4. Express 18 inches and 2 yards **as a ratio.**

5. Arrange in order from smallest to largest:
$\frac{1}{2}$, $1\frac{2}{3}$, $\frac{5}{6}$, $\frac{7}{12}$, $\frac{17}{8}$, $\frac{1}{8}$

6. Write the fraction $\frac{1}{5}$ as a decimal.

7. Write 71% **as a fraction.**

8. What is the height of a building that casts a shadow of 25 ft. **at the same time of day that a stick** 8 ft. long **casts a shadow of** 5 ft.**?**

9. The number 10^{-3} **means (a.** 7 **b.** 0.001 **c.** -30 **d.** 10,000 **).**

10. If John sells $50 **worth of merchandise, he makes** $5. **What is his percent of commission?**

1. _____
2. _____
3. _____
4. _____
5. _____
    _____
6. _____
7. _____
8. _____
9. _____
10. _____

804

1. Add and simplify: $\frac{2}{3} + \frac{1}{2} =$

2. $357\frac{4}{5}$
    $98\frac{2}{3}$
  $+\ 162\frac{7}{15}$

3. Subtract and simplify: $\frac{4}{5} - \frac{4}{7} =$

4. $7\frac{1}{4}$
  $-\ 5\frac{3}{5}$

5. **Add:** $754.32 + 16.304 + 9.24 =$

6. **Subtract:** $7.37 - 3.402 =$

7. **Add and subtract:** $5.326 + 0.17 - 2.3904 =$

8. **Round** 72,048 **to the nearest** 10.

9. **Write an improper fraction using the numbers** 5 and 10.

10. **Change the fraction** $\frac{3}{5}$ **to a decimal fraction.**

1. _____
2. _____
3. _____
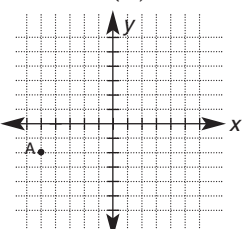4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

37

805

1. Multiply and simplify: $\frac{2}{15} \times 6 =$

2. Multiply and simplify: $8\frac{2}{3} \times 6\frac{3}{4} =$

3. Multiply: 7,456
   x 0.0014

4. Divide: $20.1\overline{)1,616.04}$

5. Divide and simplify. $\frac{5}{8} \div \frac{3}{4} =$

6. Divide and simplify: $4\frac{9}{10} \div 2\frac{3}{5} =$

7. If a family has an annual income of $15,000 and budgets $\frac{1}{5}$ of it for housing, what is the amount of money that is reserved for housing?

8. What number is 12 percent of 30?

9. 14.72 is 23% of what number?

10. What percent of 120 equals 21?

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

806

Given the following numbers: 19, 28, 37, 23, 17, 42, 58
1. Find the mean.   2. Find the median.   3. Find the deviation.

Given the following numbers: 2, 2, 3, 6, 1, 9, 4, 2, 5, 7, 6, 8, 6, 2
4. What is the frequency distribution of 2?

A box contains ten balls of like shape and size. Three are red, two are white, and five are blue. The balls are also numbered from 1 to 10. Find the following probabilities.
5. one red ball.
6. one ball with a number >5.

7. Given the function rule d = r x t and the following table, what is the missing ordered-pair number?

Time in hours	1	2	3	4	5
Distance	40	80	120	160	

8. What are the missing order-pair numbers for f(n) = 3 x n + 2?

n	0	1	2	3
f(n)	2			

9. Write the ordered pair for point A.

10. A school committee has two girls, Mary and Jean and three boys, Jim, Doug, and Allen. What is the probability of Mary or Doug being chosen by drawing to represent the committee at an assembly?

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

807

1. Select the positive integers. (**a.** 0, 1, 2, 3, 4,... **b.** 1, 2, 3, 4,...
   c. $\frac{1}{2}, \frac{1}{3}, \frac{1}{4}, \frac{1}{5}$ **d.** $\frac{1}{2}, 1, 1\frac{1}{2}, 2, 2\frac{1}{2}$.).

2. Write the integers -8, 2, 0, -6, 5, 10, -15 **in order from smallest to largest.**

3. What is the absolute value of $|$ -32 $|$?
4. Find the sum: $25 + (-11) + (-15) + 7 + (-8) + 17$.
5. Find the difference: $-15 - (-28)$
6. Find the product: $2 \times (-9) \times 0$
7. Find the value of q^3 when q = -3.
8. What are the coordinates of
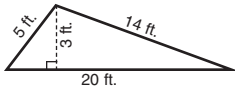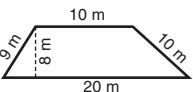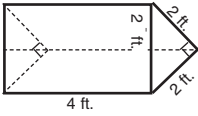   (**a.** point A and **b.** point B)
   on the graph?
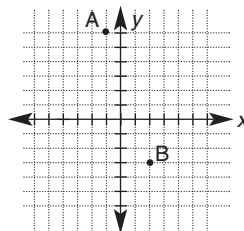
9. If a = 2, b = -5, and c = 0, **what is the answer to this algebraic expression:** $a^2b + (-3)^c - \frac{c}{ab} =$

10. Find the missing number for a **in the table to make the given sentence true.**

$a - b = -1$

a	0	3	
b	1	4	-2

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8a. _____
b. _____
9. _____
10. _____

808

1. Find the area of the given triangle.
2. Find the area of the given trapezoid.
3. Find the circumference of a circle with a radius of 4.1 cm.
4. Find the area of a circle with a diameter of 5 ft.
5. Find the volume of a tank with measurements $1\frac{1}{2}$ ft., 3 ft. and 2 ft.
6. Select the area of the given prism.
   a. $8\sqrt{2}$ ft.^{2}
   b. $12\sqrt{2}$ ft.^{2}
   c. 20 ft.$^2 + 8\sqrt{2}$ ft.^{2}

7. Select the volume of a paint can 6 in. high and $7\frac{1}{2}$ in. in diameter.
   a. $28\frac{1}{8}\pi$ in.^{3} **b.** 45π in.^{3} **c.** $84\frac{3}{8}\pi$ in.^{3}

8. Convert 270 ft.^{3} **to cubic yards.**

9. Select the surface area of a sphere with a radius of 5 in.
   a. 50π in.^{2} **b.** $\frac{125}{3}\pi$ in.^{2} **c.** 100π in.^{2}

10. Select the formula for the surface area of a cone.
   a. $S = \pi r(s + r)$ **b.** $S = 2\pi r^2 + 2\pi rh$ **c.** $S = 4\pi r^2$

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

39

809 1. What is the distance between -32 and +50 on the number line?   1. _____

2. What is the coefficient of the term $\frac{2}{3}$ xy?   2. _____

3. Write this phrase in numbers:
   a number divided by three plus six   3. _____

4. Write this phrase in numbers: 4. _____
   five less than three times a number

5. Find the solution to $y - \frac{3}{4} = 1\frac{3}{4}$.   5. _____

6. Find the solution to $18x + 11 = 29$.   6. _____

7. Simplify: $14xy - 6x - 7xy + 8x - 6xy$ 7. _____

8. Solve: $3x - 6 = 2x - 9$ 8. _____

9. **Mark is** three times **as old as his sister.** Two years **ago he was**
   seven times **as old as his sister. Their present ages are:**   9. _____
   a. Mark 6 yrs; sister 2 yrs   **c.** Mark 9 yrs; sister 3 yrs
   b. Mark 15 yrs; sister 5 yrs   **d.** Mark 16 yrs; sister 4 yrs

10. **Pam found that she could read** 9 pages **of a novel in**
    20 minutes. **At this rate, how long would it take her**   10. _____
    to read 378 pages?

810 1. **Change** 1.6 **to percent.**   1. _____

2. **Find the products of (a.** 4^2 **) and (b.** 3^3 **) .**
                                                                                             2a. _____ b. _____

3. **Find the area of a circle to the** nearest tenth**, with a radius of**
   8.1 cm**.**   3. _____

4. **Find the volume of a rectangular solid with length** 14 in.**,**   4. _____
   width 8 in.**, and height** 6 in.

5. **Use the distributive property to find the product of**   5. _____
   (x + 3) (y − 4)**.**

6. **Translate to algebraic symbols:** Two more than four times a   6. _____
   number is one less than the number.

7. **Write the opposites of** 6, -9, 0**.**   7. _____

8. **The sum of four consecutive integers is** 18. **Find the integers.**   8. _____

9. **Write the numeral** 5,000,000 **in powers of** ten.   9. _____

10. **What is the greatest common factor of** 12, 18, and 30**?**   10. _____

40