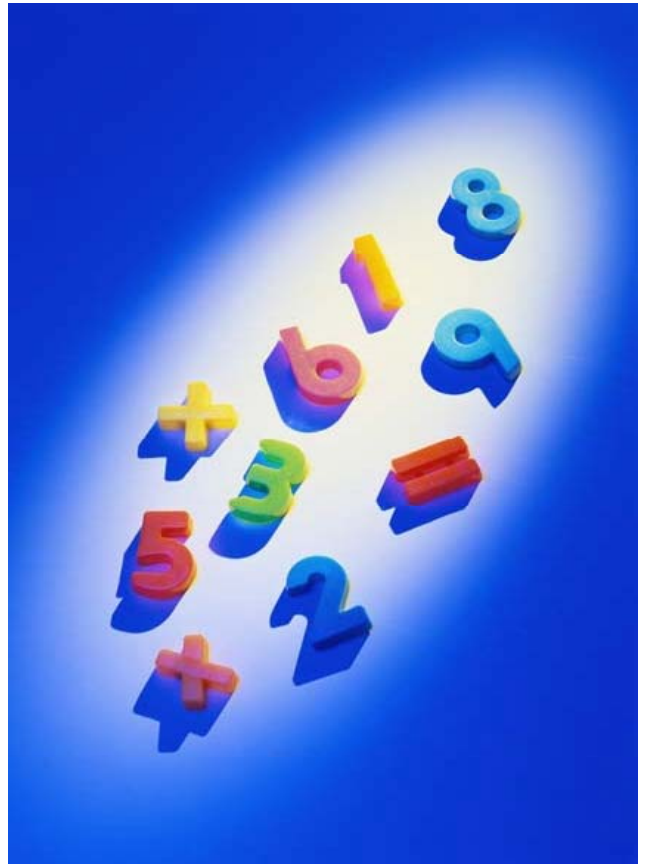


# Numbers



**Academic Center for  
Enrichment**

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**Booklet 1, Version 1**  
*Kathryn I. Schulte 2005 ©*

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# Table of Contents

Purpose of Booklet	3
Warm-up	4
What is a number?	5
Place Values	6
Types of Numbers	8
Reading Numbers	9
Rounding Numbers	10
Comparing Numbers	14
Solutions	16
Workbook Practice	17
Workbook Practice Solutions	18
More Resources	19

## More Resources

### **Academic Center for Enrichment**

Central Lakes College

1-800-933-0346 Ext. 8121

### **Percent Worksheets**

<http://www.clcmn.edu/kschulte/prep.htm>

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This information is available in alternative format upon a 48 hour advanced request by contacting Disability Services at

1-800-933-0346 Ext. 8128

## Workbook Practice Solutions

- 1) 1
- 2) 6
- 3) 7
- 4) 3
- 5) 36.1
- 6) 2.014
- 7) 1.15
- 8) 5.25
- 9) 3.4
- 10) 1.45
- 11) 5.25
- 12) 184

## Booklet

This booklet was written to help Central Lakes College students refresh their skills in number identification. It is not intended to replace any math course.

## Booklet Guide

This booklet is divided into chapters. Each chapter consists of rules, examples and practice problems. You should attempt each problem and check their solutions. Incorrect answers should be attempted until they are correct.

A 'workbook practice' is given at the end of the booklet. Do not look back into the booklet to solve the problems! Check your answers. If you have an incorrect answer, return to that section and review. There are extra resources listed for more review.

## Warm-Up

This warm-up will determine which sections you should practice. Solutions can be found on the page listed.

### Place Values Pg 6

In the number 235.718, list the place values for:

5 \_\_\_\_\_  
1 \_\_\_\_\_  
7 \_\_\_\_\_

### Addition of Decimals Pg 8

$$21.5 + 2.1 =$$

$$205.96 + 105.12 =$$

$$23.5 + .05 =$$

### Subtraction of Decimals Pg 10

$$17.3 - 4.2 =$$

$$189.36 - 115.72 =$$

$$20.3 - .06 =$$

### Multiplication of Decimals Pg 12

$$2.3 \times .2 =$$

$$.025 \times .27 =$$

$$23.4 \times 1.02 =$$

### Division of Decimals Pg 14

$$.6 \div .5 =$$

$$.003 \div .15 =$$

## Workbook Practice

In the number 272.351, what digit is in the 1) tens place \_\_\_\_\_

2) hundredths place \_\_\_\_\_

3) thousandths place \_\_\_\_\_

4) tenths place \_\_\_\_\_

5) Which of the following is a list of whole numbers?

a) 0, 1, 2, 3    b) -3, -2, -1    c) 1, 2, 3

6) . Which of the following is a list of natural numbers?

a) 0, 1, 2, 3    b) -3, -2, -1    c) 1, 2, 3

Write each of the following using numbers.

7) fifty seven and twelve hundredths \_\_\_\_\_

8) Three thousand twenty five \_\_\_\_\_

Write each of the following in English

9) 58.6 \_\_\_\_\_

10) .058 \_\_\_\_\_

Use < and > to compare the numbers.

11) 6.3    .36    13) .02    .05

12) .25    .256    14) .076    .0076

**Solutions****Place Values**

- 1) hundredths
- 2) tens
- 3) tenths
- 4) thousandths
- 5) 4
- 6) 2
- 7) 8
- 8) 1

**Addition**

- 1) 2.65
- 2) 3.8
- 3) .75
- 4) 20.9
- 5) 2.847
- 6) 9.65
- 7) 8.32
- 8) 27.83
- 9) 10.2
- 10) .1497
- 11) 1.032
- 12) 14.15
- 13) 3.94

**Subtraction**

- 1) 4.1
- 2) 4.4
- 3) 3.6
- 4) 71
- 5) 60.26
- 6) 4.3
- 7) 23.43
- 8) 22.44
- 9) 77.3
- 10) 15.1
- 11) 93.21
- 12) .024
- 13) .041
- 14) 7.33

**Multiplication**

- 1) .44
- 2) 9.96
- 3) .282
- 4) 44.84
- 5) .0042
- 6) .162
- 7) 22.568
- 8) 2.698
- 9) .02052
- 10) .128
- 11) 4.257
- 12) 311.31

**Division**

- 1) 2.1
- 2) .3
- 3) .6
- 4) 15
- 5) .84
- 6) 17.2
- 7) .45
- 8) .06
- 9) 25.1
- 10) 2.5
- 11) 7.4
- 12) .4
- 13) 7.5
- 14) 2.03

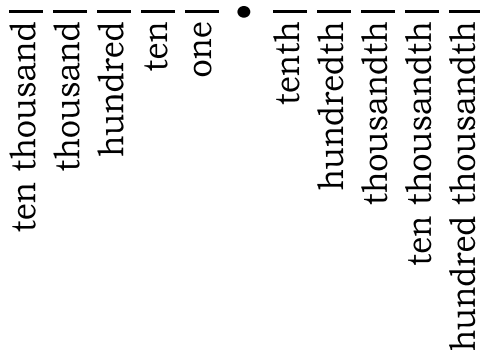
**What is a Number?**

**History of numbers.** Numbers were probably first used many thousands of years ago in commerce, and initially only whole numbers and perhaps rational numbers were needed. But already in Babylonian times, practical problems of geometry began to require square roots.

The ancient Egyptians were using special symbols, known as pictographs, to write down numbers over 3,000 years ago. Later, the Romans developed a system of numerals that used letters from their alphabet rather than special symbols. Today, we use numbers based on the Hindu-Arabic system. We can write down any number using combinations of up to 10 different symbols (0, 1, 2, 3, 4, 5, 6, 7, 8, and 9). The ancient Egyptians developed number systems to keep accounts of what was bought and sold.

## Place Values

Every number holds a place, no matter how large or small the number.



### Rules to find place value:

1. Write number above the place values lining up the decimals.
2. The position of the number shows its place value.

**Example:** In the number 235.718 find the place value of the number



- 5** -> one's place  
**1** -> hundredths  
**7** -> tenths place

## Practice

Place the symbol < or > between the numbers.

1) 4    9

2) 7    2

3) .28    .37

4) .058    .12

5) 1.25    5.25



## Types of Numbers

For the purpose of this booklet series, we will look at three (3) types of numbers. In you math studies, you will learn about more types of numbers.

### Natural Numbers:

Natural Numbers are the counting numbers.

1, 2, 3, 4... and so on

### Whole Numbers

Whole numbers are the counting numbers with zero(0).

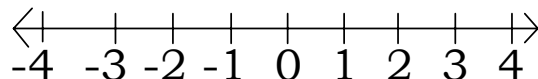
0, 1, 2, 3, 4...and so on

### Integers

Integers are whole numbers, and their negatives.

.... -4, -3, -2, -1, 0, 1, 2, 3, 4...

You have probably seen **integers** written on a number line such as the one below. It is used as a tool to add and subtract integers.



## Practice

### Multiplication of Decimals

1)  $2.2 \times .2 =$

2)  $8.3 \times 1.2 =$

3)  $9.4 \times .03 =$

4)  $7.6 \times 5.9 =$

5)  $.06 \times .07 =$

6)  $.45 \times .36 =$

7)  $2.48 \times 9.1 =$

8)  $1.42 \times 1.90 =$

9)  $2.052 \times .01 =$

10)  $2.56 \times .05 =$

11)  $15.8 \times 8.69 =$

12)  $32.75 \times .13 =$

13)  $115.3 \times 2.7 =$

14) Explain in your own words how to add decimals.

## Multiplication of Decimals

Rules:

1. Multiply numbers (ignore the decimal).
2. Count decimal places to the right of the decimal.
3. Move that many places left in the answer.

**Example:**

$$\begin{array}{r} 2.3 \text{ (1 decimal place)} \\ \times .2 \text{ (1 decimal place)} \\ \hline .46 \text{ (2 decimal places)} \end{array}$$

**Example:**

$$\begin{array}{r} .025 \text{ (3 decimal places)} \\ \times .27 \text{ (2 decimal places)} \\ \hline .00675 \text{ (5 decimal places)} \end{array}$$

Example:

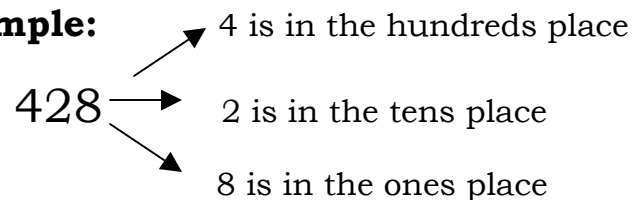
$$\begin{array}{r} 23.4 \times 1.02 = 23.4 \text{ (1 decimal place)} \\ \times 1.02 \text{ (2 decimals places)} \\ \hline 23.868 \text{ (3 decimal places)} \end{array}$$

## Reading Numbers

In word problems you may be asked to translate English into numbers, and numbers into English.

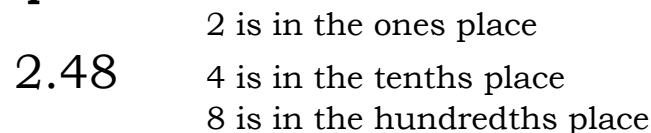
To translate numbers into English we will use the place values chart as seen on page 6. The word 'and' is only used where the decimal place will go.

**Example:**



This number is read "Four hundred twenty eight."

**Example:**



This number is read "Two and forty-eight hundredths."

**English to numbers.**

$$\begin{array}{r} \text{Seventy two and fifty seven hundredths} \\ 70 + 2 \quad . \quad 50 + 7 \\ \hline 72.57 \end{array}$$

$$\begin{array}{r} \text{Two hundred thirty nine hundredths} \\ . 200 \quad + 30 \quad + 9 \\ \hline .239 \end{array}$$

↘ The last word tells us this is a decimal because it ends in **th**

**Rules:**

1. Underline the number to be rounded.
2. Look at the number to its right.
  - a. If that number is less than 5, do not round, drop numbers.
  - b. If that number is 5 or greater, round the underlined number up one digit.

**Example:**

Round 347 to the nearest tens.

3 4 7      7 is greater than 5, round up  
**350**

**Example:**

Round 21.213 to the nearest hundredths.

21.2 1 3      3 is smaller than 5, drop  
 numbers after the  
 hundredths place

**21.21**

**Example:**

Round 34,600 to the nearest thousand.

34,600      6 is greater than 5, round up  
**35,000**

**Practice**

Round the numbers to the nearest tenths place.

- 1) 5.026 \_\_\_\_\_
- 2) 12.936 \_\_\_\_\_
- 3) .036 \_\_\_\_\_

Round the numbers to the nearest hundred place.

- 4) 732 \_\_\_\_\_
- 5) 2,628 \_\_\_\_\_
- 6) 29,969 \_\_\_\_\_

Round the numbers to the nearest thousand.

- 7) 65,289 \_\_\_\_\_
- 8) 9,236 \_\_\_\_\_
- 9) 7,523 \_\_\_\_\_

10) Explain in your own words how to round a number.