



# Vocabulary for Math Class 1:

## *Numbers & Calculations*

In all ESL classes, people learn how to read numbers and do simple math. However, the math classes here at VCC often use more complicated vocabulary. Teachers will expect all students to know basic math vocabulary. This worksheet will help you learn some of this vocabulary.

### TALKING ABOUT LARGE NUMBERS

In Western culture, we divide large numbers into groups of three **digits**. The number 1000000000 would be written with a comma (,) before every three zeroes, going from right to left:

$$1000000000 \rightarrow 1000000,000 \rightarrow 1000,000,000 \rightarrow 1,000,000,000$$

The commas also tell us how to read the number. They help us to divide up the name of the number.

If a number has three digits, then the number is in the **hundreds**.

$$783 = \text{"seven hundred eighty-three"}$$

If a number has four, five or six digits, then the number is in the **thousands**. We read the first part of the number (to the left of the first comma), then "thousand", then the name of the last part of the number.

$$24,783 = \text{"twenty-four thousand, seven hundred eighty-three"}$$

If a number has seven, eight, or nine digits, then the number is in the **millions**. We say the name of the number before the first comma, then "million", then the rest of the number:

$$156,024,783 = \text{"one hundred fifty-six million, twenty-four thousand, seven hundred eighty-three"}$$

If a number has "000" for one part, we don't say anything.

$$3,000,008 = \text{"three million eight"}$$

A dictionary will tell you names of larger numbers, but the common ones are:

$$\begin{aligned} 1,000,000 &= \text{one million*} \\ 1,000,000,000 &= \text{one billion*} \\ 1,000,000,000,000 &= \text{one trillion} \end{aligned}$$

\*Be careful about pronouncing these! Just as you have to be careful about saying "thirteen" and "thirty" carefully, you have to be careful about "million" and "billion".



## TALKING ABOUT SMALL NUMBERS

A number that represents part of a thing (like  $\frac{4}{5}$  or 0.261) is a **fraction**. If the fraction is written with a **decimal point**, like 0.261, then it is called a **decimal fraction** or a **decimal number**.

If a fraction is written with a bar, like  $\frac{4}{5}$ , then we use the two numbers in the fraction to make its name. The number above the bar is called the **numerator**. We say its name first. Then we say the name of the number below the bar, the **denominator**, as if it were describing a position in a list. For example, the denominator of  $\frac{4}{5}$  is 5. The letter in position number 5 in the English alphabet is E, it is the fifth letter. We use the word “fifth” or “fifths” at the end of the name of the fraction.

$$\frac{4}{5} = \text{“four-fifths”}$$

There are two exceptions. If the denominator is 2, we always say “half”, not “second”. If the denominator is 4, we usually (but not always) say “quarter”. (That’s why the Canadian coin is called a quarter — it’s  $\frac{1}{4}$  of a dollar.)

If we have a **mixed number** — a number with a whole number and a fraction — we say the whole number, then “and”, then the fraction’s name.

$$2\frac{4}{5} = \text{“two and four-fifths”}$$

For a decimal number, we say the number before the decimal point, then “point” and then we read the digits after the decimal point. When there is a zero in the number, the zero may be read as “zero”, or “oh”.

$$2.45 = \text{“two point four five” } \textit{not} \text{ “two point forty-five”}.$$
$$2.05 = \text{“two point zero five” or “two point oh five”}$$

## TALKING ABOUT CALCULATIONS

The answer to an addition problem is a **sum**.  $4 + 4 = 8$  8 is the sum.

The answer to a subtraction problem is a **difference**.  $9 - 7 = 2$  2 is the difference.

The answer to a multiplication problem is a **product**.  $5 \times 3 = 15$  15 is the product.  
The numbers you multiply are **factors**. 5 and 3 are factors.

The answer to a division problem is a **quotient**.  $60 \div 10 = 6$  6 is the quotient.  
The number you divided by is the **divisor**. 10 is the divisor.



## EXERCISES

A. Write the numbers with these names. Include commas when necessary.

- |  |   |
|--|---|
| 1) fifty-seven   | 5) seven million, two hundred fifty thousand  |
| 2) six hundred eleven                                    | 6) thirty million, ninety thousand  |
| 3) thirteen thousand, nine hundred two                   | 7) one billion, five  |
| 4) three hundred six thousand, five hundred eighty-eight | 8) twelve billion, three hundred forty-five million, six hundred seventy-eight thousand, nine hundred ten |

B. Write the numbers with these names.

- |                             |                                   |
|-----------------------------|-----------------------------------|
| 1) one-seventh              | 5) seven and two-thirds           |
| 2) six-tenths               | 6) twenty-one and ten thirteenths |
| 3) zero point zero nine six | 7) seventeen and a half           |
| 4) thirteen point two five  | 8) forty-nine and three-quarters  |

C. Write the names for these numbers.

- |           |                  |                  |                      |
|-----------|------------------|------------------|----------------------|
| 1) 313    | 4) 5,340,009     | 7) $\frac{5}{6}$ | 10) $18\frac{5}{33}$ |
| 2) 7,890  | 5) 60,434,238    | 8) 11.12         | 11) $2\frac{1}{4}$   |
| 3) 24,863 | 6) 8,927,354,116 | 9) 3.14159       | 12) $\frac{10}{3}$   |

D. Calculate these answers. What is:

- |                                      |   |
|--------------------------------------|---|
| 1) the difference of seven and four? | 4) the product of five and six?                 |
| 2) the sum of eighteen and eighty?   | 5) the sum of nine, two and six?                |
| 3) the quotient of twelve and two?   | 6) the product of the numbers from one to four? |

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## SOLUTIONS

- A: (1) 57 (2) 611 (3) 13,902 (4) 306,588 (5) 7,250,000 (6) 30,090,000  
(7) 1,000,000,005 (8) 12,345,678,910
- B: (1)  $\frac{1}{7}$  (2)  $\frac{6}{10}$  (3) 0.096 (4) 13.25 (5)  $7\frac{2}{3}$  (6)  $21\frac{10}{13}$  (7)  $17\frac{1}{2}$  (8)  $49\frac{3}{4}$
- C: (1) three hundred thirteen (2) seven thousand, eight hundred ninety  
(3) twenty-four thousand, eight hundred sixty-three  
(4) five million, three hundred forty thousand, nine  
(5) sixty million, four hundred thirty-four thousand, two hundred thirty-eight  
(6) eight billion, nine hundred twenty-seven million, three hundred fifty-four thousand, one hundred sixteen (7) five-sixths (8) eleven point one two  
(9) three point one four one five nine (10) eighteen and five thirty-thirds  
(11) two and one quarter (12) ten-thirds
- D: (1) 3 [= 7 - 4] (2) 98 [= 18 + 80] (3) 6 [= 12 ÷ 2] (4) 30 [= 5 × 6]  
(5) 17 [= 9 + 2 + 6] (6) 24 [= 1 × 2 × 3 × 4]

