



LIFE·PAC®

Math



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MATHEMATICS 602

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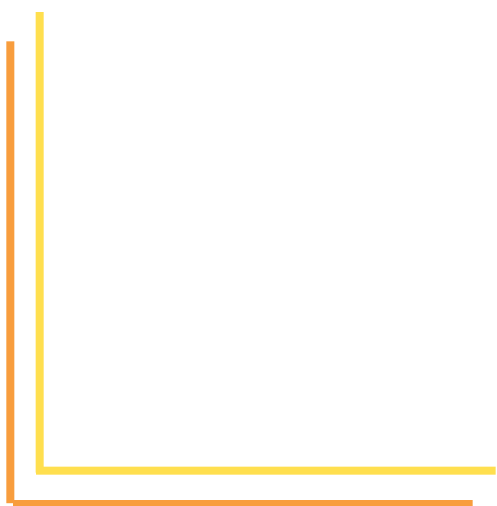
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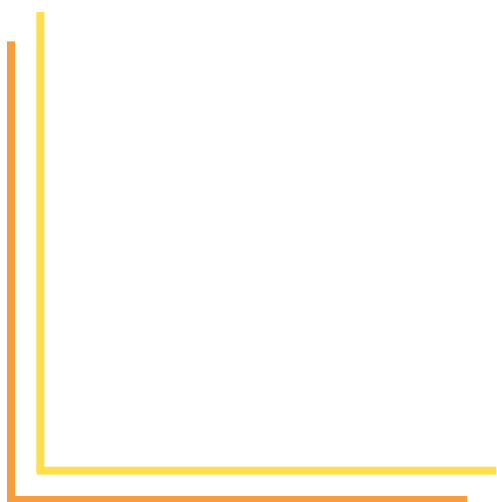
LIFEPAC 602 Objectives

To review

- ◆ base ten system
- ◆ numbers to billions' place
 round to billions' place
- ◆ operation symbols
 addition, subtraction multiplication, division
 equal, not equal greater than, less than
- ◆ equations
- ◆ factors
- ◆ fractions
 simplify using the greatest common factor (GCF)
 equivalent fractions
 add and subtract with like denominators
- ◆ decimals
 write equivalent decimals
 add and subtract
 convert to fractions
- ◆ missing number problems
- ◆ multi-operation problems
- ◆ multiples
- ◆ number sentences
- ◆ standard measurements for linear and square units, weight, volume, time
- ◆ whole number operations
 subtraction
 multiplication by 2-digit and 3-digit multipliers
 division by 1-digit and 2-digit divisors

To learn to

- ◆ estimate answers in addition and subtraction to billions' place
- ◆ write the understood decimal point in whole numbers
- ◆ use patterns for adding and subtracting even and odd numbers
- ◆ understand the meaning of prime numbers and prime factors and to
 find the prime factors of a number using factor boxes
- ◆ write numbers in exponential notation, to learn the meaning of
 base factor, exponent, powers of ten, repeated factor, and to
 understand the base factor and exponent as a multiplication sign
- ◆ recognize fractions as part of a whole or part of a set
- ◆ solve fraction problems
 in addition and subtraction with unlike denominators
 using the least common multiple (LCM)
 by borrowing to subtract
 with mixed numbers and mixed numbers with fractions
- ◆ write fractions with unlike denominators in number order



I. Part One

Objectives

To learn about zero in whole numbers and decimals
To multiply by 10, 100, 1,000
To find the prime factors of a number



Every whole number has an understood decimal point.
The decimal point is written to the right of the digit in ones' place.

1.1 Write the understood decimal point in the whole numbers.

5 341 8,546 439,561,370 26,309,641,827

The number system that we use is a base ten system.
Decimals are a base ten system for fractions.
The first place to the right of the decimal point is tenths' place.
Decimals begin with tenths' place because decimals are fractions.

units (whole numbers)			.	decimals (fractions)		
hundreds 100's	tens 10's	ones 1's	.	tenths 10ths	hundredths 100ths	thousandths 1,000ths

We have learned about numbers to hundred billions.

1.2 Write in number words.

- a. 430,851,769,023 _____

- b. 526,043,297,600 _____

The denominators for decimals follow a pattern similar to whole numbers.
The pattern is tenths, hundredths, one-thousandths, ten-thousandths, ...

1.3 Follow the pattern. Begin with the decimal point.
Count decimal places from left to right. Write the decimal numbers as fractions.

- a. .5 _____ .36 _____ .025 _____ .3768 _____ .90176 _____
- b. .2 _____ .09 _____ .350 _____ .9354 _____ .65130 _____

Because decimals are fractions, we can write equivalent decimals. We simply add zero(s) to the right of the decimal number.

$$\frac{7}{10} = \frac{70}{100} = \frac{700}{1,000}$$

$$.7 = .70 = .700$$

1.4 Write equivalent decimals to ...

- a. hundredths' place. .9 _____ .6 _____ .2 _____ .3 _____
- b. thousandths' place. .4 _____ .73 _____ .06 _____ .90 _____
- c. ten thousandths' place. .8 _____ .321 _____ .023 _____ .08 _____

Zero changes the value of a whole number if it is added to the *right* of the digits.

1.5 Cross out the zeros that do not change the value of the number.

a. 00,365,490 4,506,143 60,521 000,756 0,496,002

b. 4,003,250 0,527,061 90,020 403,271 000,369

Zero changes the value of a decimal if it is added anywhere to the *left* of a digit.

.7 = .70

.7 ≠ .07

1.6 Cross out the zeros that do not change the value of the decimal.

a. .30 .030 .007 .0250 .00960

b. .076 .5400 .063 .080 .36700

There is a pattern for multiplying whole numbers by 10, 100, 1,000.

1.7 Write the answer.

$$\begin{array}{r} 358 \\ \times 10 \\ \hline 000 \\ 3580 \\ \hline 3,580 \end{array}$$

How many 0's in the multiplier? _____

How many 0's in the product? _____

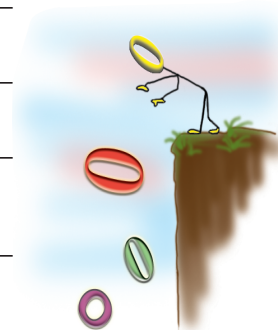
Is it the same number of zeros? _____

$$\begin{array}{r} 358 \\ \times 100 \\ \hline 000 \\ 0000 \\ 35800 \\ \hline 35,800 \end{array}$$

How many 0's in the multiplier? _____

How many 0's in the product? _____

Is it the same number of zeros? _____



When multiplying by a number in the sequence of 10, 100, 1,000, ... count the number of zeros in the multiplier and add them to the multiplicand.

$$10 \times 65 = 650$$

$$100 \times 65 = 6,500$$

$$1,000 \times 65 = 65,000$$

1.8 Multiply. Write commas in answers.

a. $10 \times 43 =$ _____

$100 \times 7 =$ _____

$1,000 \times 954 =$ _____

b. $10 \times 8 =$ _____

$100 \times 42 =$ _____

$1,000 \times 60 =$ _____

a. $1,000 \times 9 =$ _____

$100 \times 306 =$ _____

$1,000 \times 43 =$ _____

b. $10 \times 51 =$ _____

$10 \times 240 =$ _____

$100 \times 7 =$ _____

1.9 Subtract.

$$\begin{array}{r} 7,043 \\ - 2,498 \\ \hline \end{array}$$

$$\begin{array}{r} 8,531 \\ - 6,928 \\ \hline \end{array}$$

$$\begin{array}{r} 3,074 \\ - 1,967 \\ \hline \end{array}$$

$$\begin{array}{r} 5,000 \\ - 654 \\ \hline \end{array}$$

$$\begin{array}{r} 28,902 \\ - 15,687 \\ \hline \end{array}$$