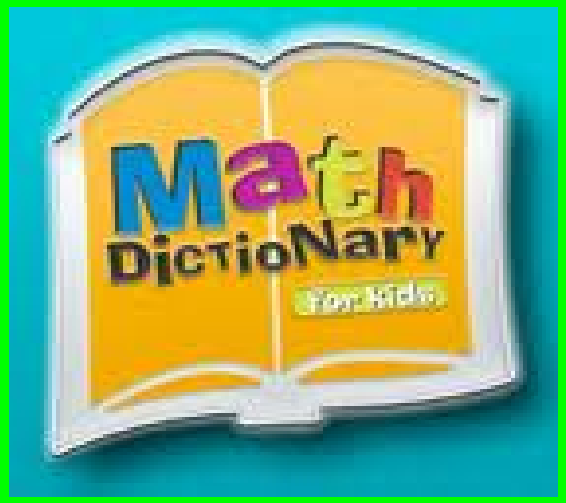

The **Math**ematical Dictionary!

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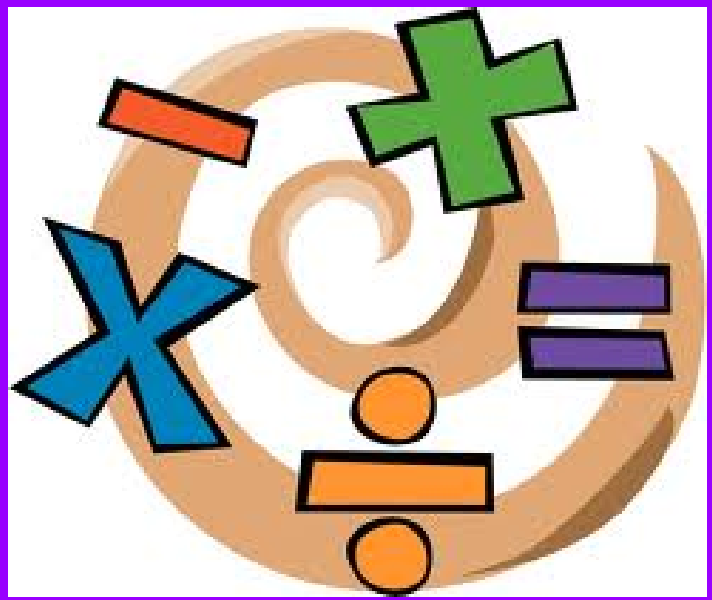
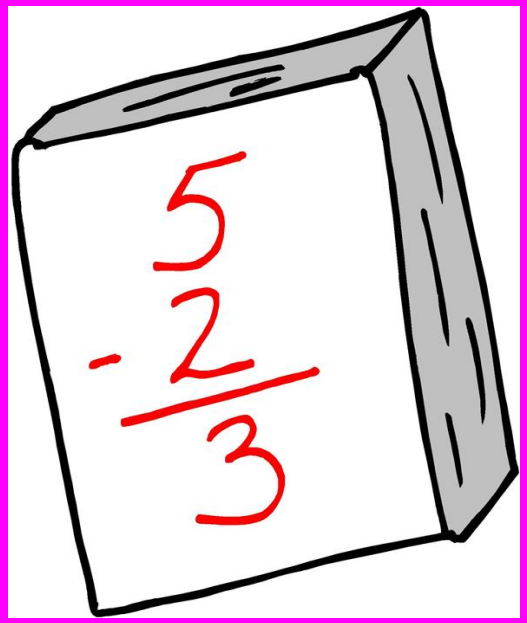
Chapter 1.

Operations with Integers.

- Subtraction
- Addition
- Multiplication
- Division
- Exponentiation





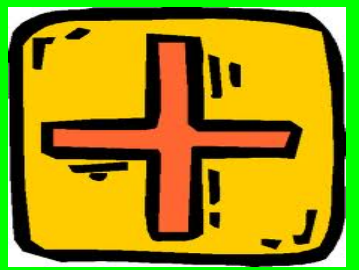
Subtraction

The operation or process of finding the difference between two numbers or quantities, denoted by a minus sign (−).

<---- Example.

Addition

The process of uniting two or more numbers into one sum, represented by the symbol (=).



Multiplication

Multiplying integers in the process of grouping number's faster.

Ex. 12(14)

12(14)=168

Because you multiply, there is less steps to solve,

X	0	1	2	3	4	5	6	7	8	9	10	11	12
0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	1	2	3	4	5	6	7	8	9	10	11	12
2	0	2	4	6	8	10	12	14	16	18	20	22	24
3	0	3	6	9	12	15	18	21	24	27	30	33	36
4	0	4	8	12	16	20	24	28	32	36	40	44	48
5	0	5	10	15	20	25	30	35	40	45	50	55	60
6	0	6	12	18	24	30	36	42	48	54	60	66	72
7	0	7	14	21	28	35	42	49	56	63	70	77	84
8	0	8	16	24	32	40	48	56	64	72	80	88	96
9	0	9	18	27	36	45	54	63	72	81	90	99	108
10	0	10	20	30	40	50	60	70	80	90	100	110	120
11	0	11	22	33	44	55	66	77	88	99	110	121	132
12	0	12	24	36	48	60	72	84	96	108	120	132	144

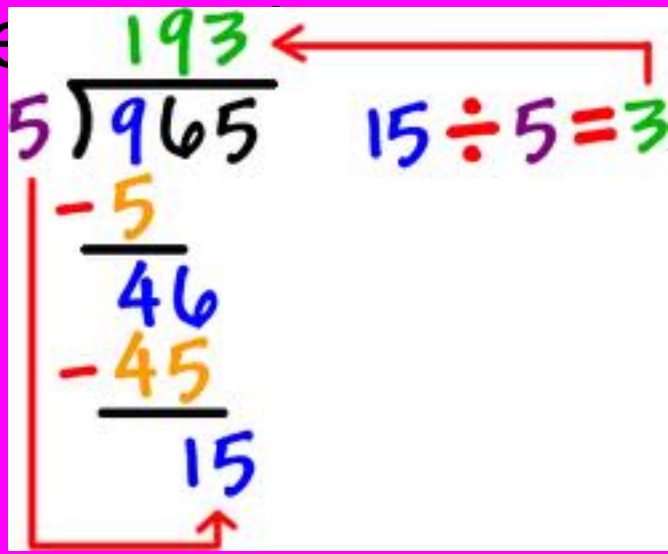
Division

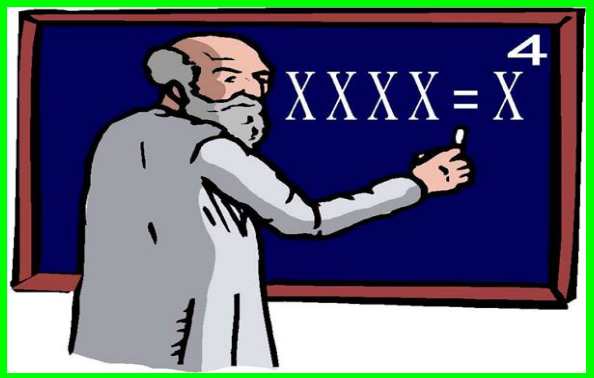
The process of ungrouping numbers to sort them.

Ex. 12 divided by 4

12 divided by 4 = 3

Division makes ungrouping numbe





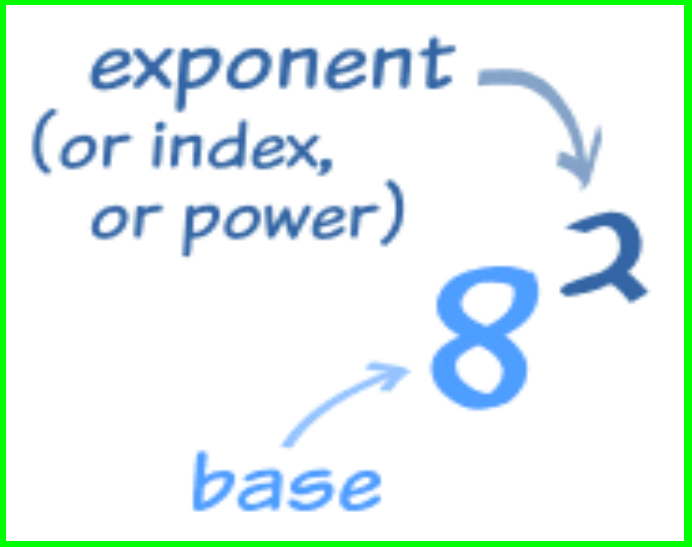
Exponentiation

Exponentiation is the process of fast multiplication.

Ex. 2(2)(2)(2)

2(2)(2)(2)= 2 to the 4th power <---- (Exponentiation form)

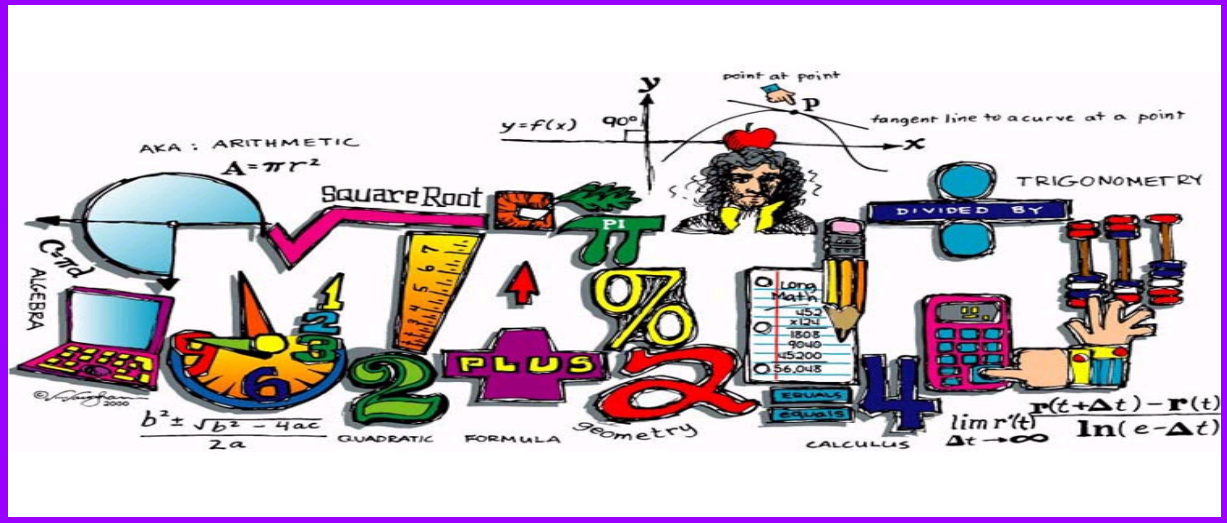
When you use the exponentiation form, put everyting t a power.



Chapter 2.

Identities

- **Additive**
- **Multiplicative**



Additive Identity

An Additive Identity is a number that to can add to any number to make the number stay the same.

Ex. 7+0

7+0=7

The Additive Identity will always be zero(0)

Multiplicative Identity

The number you can multiply by any number to make it stay the same.

Ex. 7x1

7x1=7

The multiplicative identity will always be one. (1)

Chapter 3.

Inverses

- Additive
- Multiplicative

Additive Inverse

An Additive Inverse is a number that you can add to a number to get back to it's identity.

Ex. 46+0

46+0=46

The Additive Inverse will always be zero.(0)

Multiplicative Inverse

A number that you multiply by a number to get back to the identity.

Ex. 75x1

75x1=75.

The multiplicative inverse will always be one.(1)

Chapter 4.

Numbers

- ***Whole Numbers***
- ***Integers***
- ***Positive***
- ***Negative***
- ***exponents***

Whole Numbers

A whole number is a number that isn't a fraction or a decimal.

Ex. 1,2,3,4,5,6,7,8,9,10.

Non-Ex. 1.23,1/2,7.493.

All whole numbers start from the base of 1,2,3,4,5,6,7,8,9,10.

Intergers

An integer is a whole number, also is not a fraction.

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

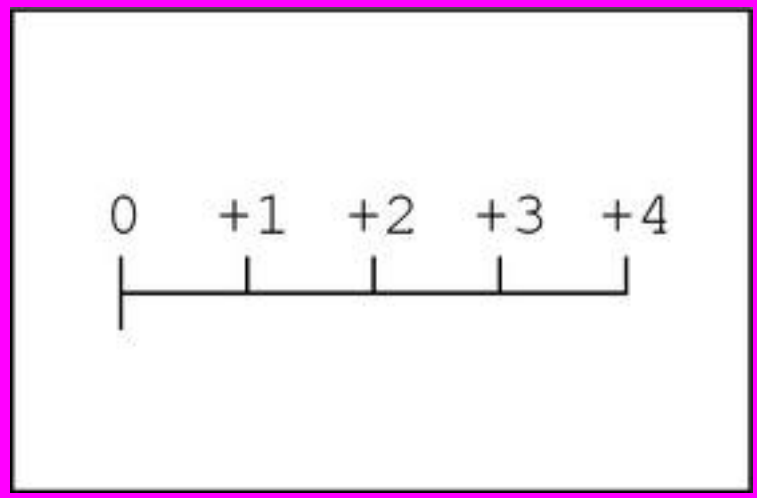
All most numbers are integers.

Positive Numbers

A positive number is a real number greater than zero.

Ex. 1,2,3,4,5,6,7,8,9,10

Any number above zero is postive.



Negative Numbers

A negative number is also a real number but it is less than zero.

Ex. -1,-2,-3,-4,-5,-6,-7,-8,-9,-10.

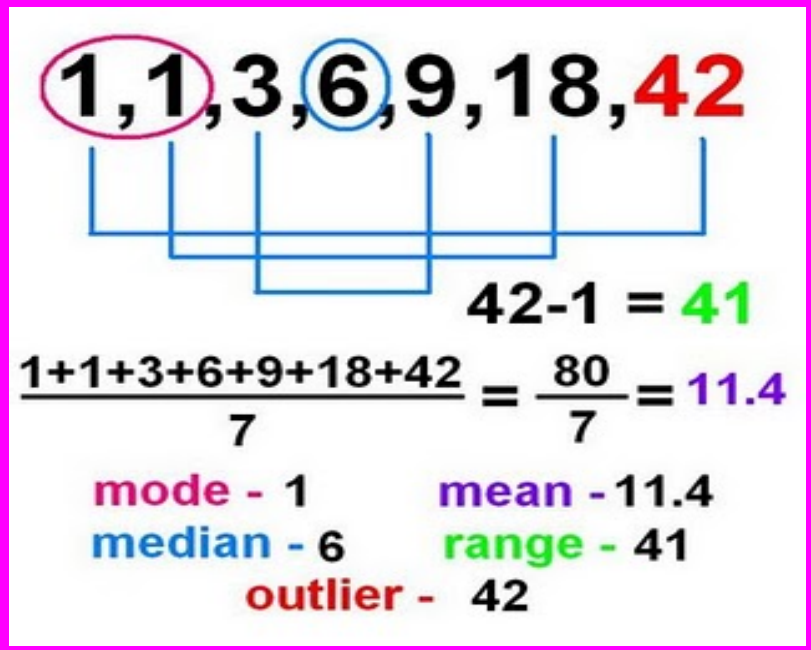
Any number below zero is negative.

Chapter 5.

- Mean
- Median
- Mode
- Range

Mean

The average of a series.



Median

Median is the middle number in a sequence of numbers.

Ex. 1,2,3,4,(5),6,7,8,9

5 is the middle number in this sequence.

Every sequence of numbers has a median.

Mode

Mode is the number that occurs the most in a sequence of numbers.

Ex. 0,2,2,3,4,4,4,4,5,6,7,7,7,8,

Mode= 4

The mode can be more than one number.

Range

Range is the largest number subtracted by the smallest number in a sequence of number.

Ex. 3,3,4,4,5,,6,7,7,7,8,9

9-3= 6

Range = 6

The range of the sequence of numbers is different for every sequence.

Chapter 5.

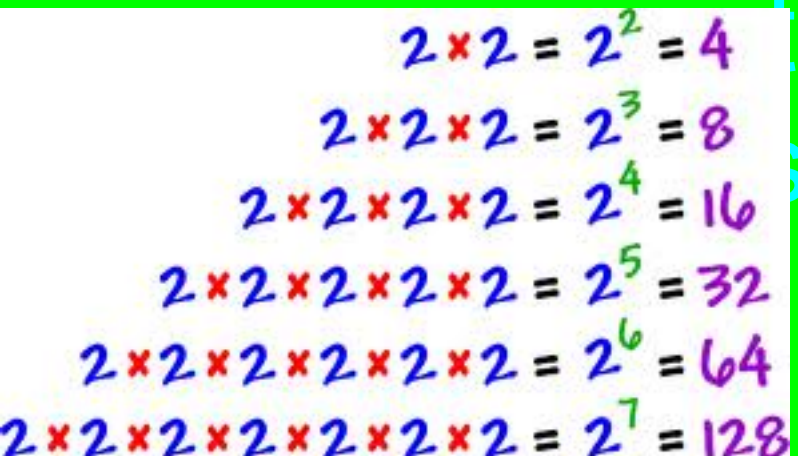
- Exponents
- Square roots
- Fractions
- Pi

Exponents

A exponent tells how many times the base is used in a factor.

Ex. 3x3x3x3x3x3x3

3x3x3x3x3x3x3= 3 to the 7th power
The base was used several times.



Square Roots

A square root is a number that can be multiplied by itself to get back to the original number.

Ex. 3x3

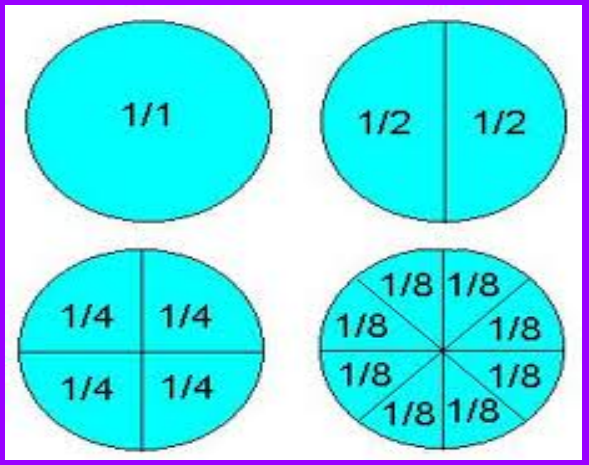
3x3=9 9 divided 3 = 3

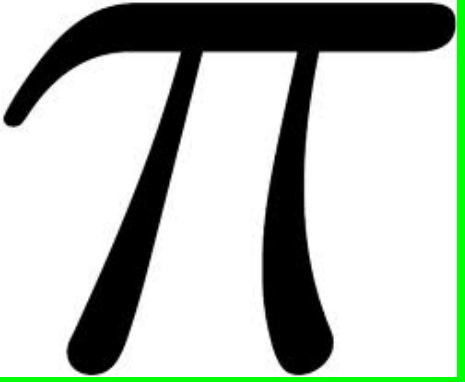
3 is the square root of 9.

Fractions

A numberical quanity that is not a whole number

Ex: 2/3 , 1/2 , 3/5





Pi

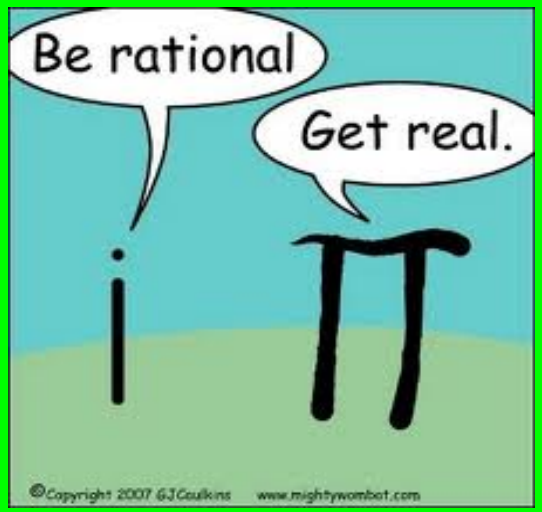
The numerical value of the ratio of the circumference of a

circle to its diameter (approximately 3.14159)

Ex: 3.14 x 6

3.14 stands for pi

ans 6 stands for the circumference of a circle



Chapter 6.

- Order of operations
- Variables
- Reciprocals
- Factors

Order Of Operations

The order of operations is also known as PEMDAS.

Ex. 2x4+7-(4x6)

2x4+7-(4x6)

1st: 2x4+7-(24) parentheses first for P

2nd: 8+7-24 no exponents for E so go to M for multipication

3rd: 15-24 no division(D) left to right now so A for addition

4th: -9 Then subtraction for S

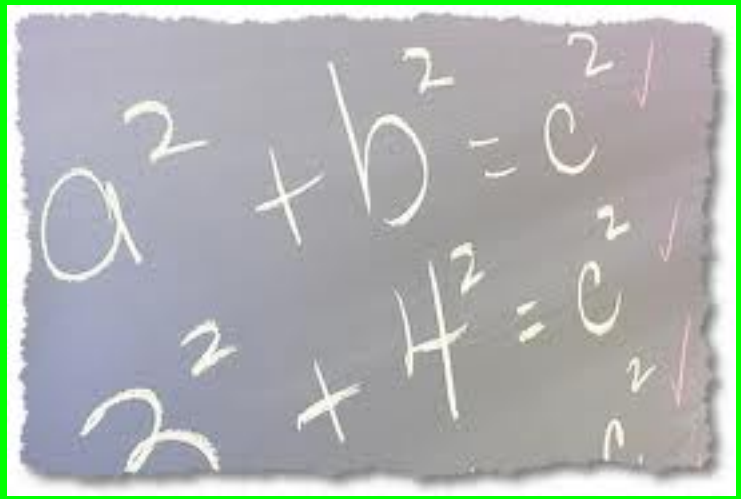
There is PEMDAS. Multiplication and divison vary for which can go first so you do left to right. Same for addition and subtraction it may vary which is first.

Variables

A variable is a letter the represents somethng.
Ex. 14+12=a

14+12=a
a=26

a variable can go anywhere in a problem.



Reciprocals

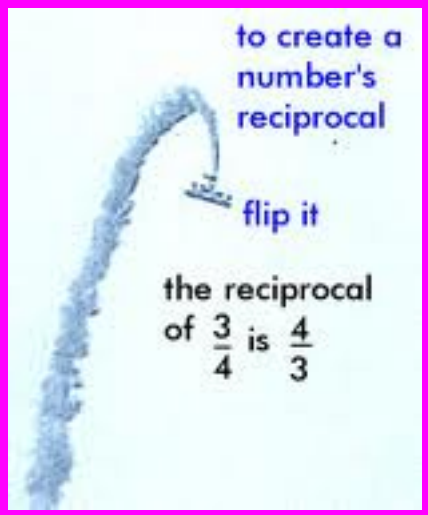
A reciprocal is a fraction flipped.

Ex. 1/2

1/2

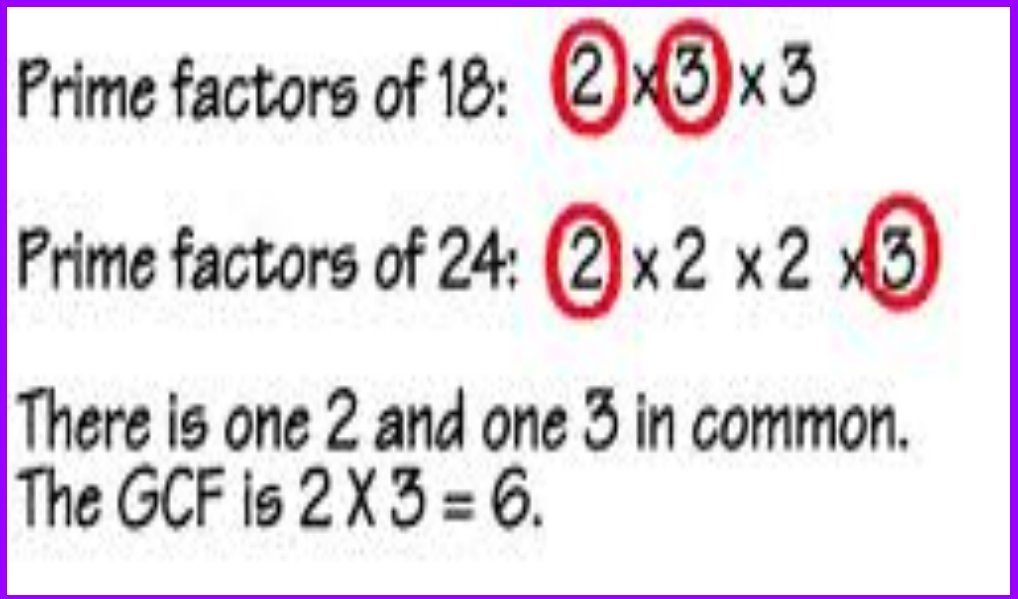
1/2, 2/1

reciprocal:2/1



Factors

1. A number or algebraic expression by which another is exactly divisible



Chapter 7.

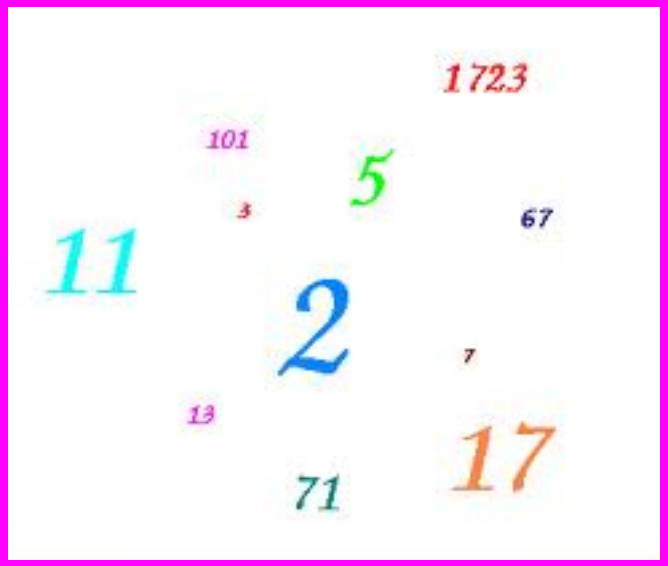
Prime
Simplifily
Composite
Sum

Prime numbers

A prime number (or a prime) is a natural number that has exactly two distinct natural number divisors: 1 and itself.

Ex: 3 is prime because you can only times it buy 1 and itself

3x1 = 3



Simplifily

To simplifily something it means to change the number to its lowest term.

Ex: 2/4 = 1/2

Composite

A number that can be divided evenly by numbers other than 1 or itself.

Ex: 2/4 = 2

Sum

The answer to addition.

ex: 6+5 = 11

the sum is 11