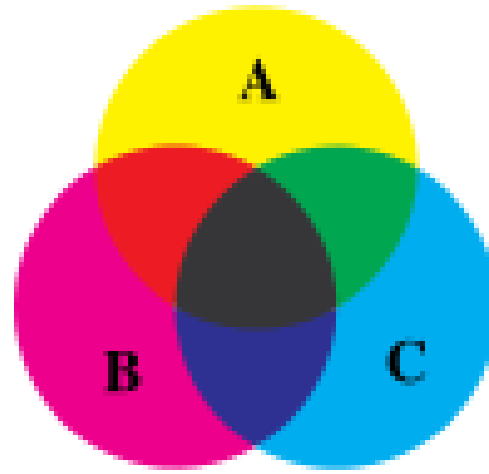


Venn Diagram



Shows all possible relationships between groups of things

Common Factor

$$3 \cdot 6 = 18$$

(3 and 6 are factors of 18)



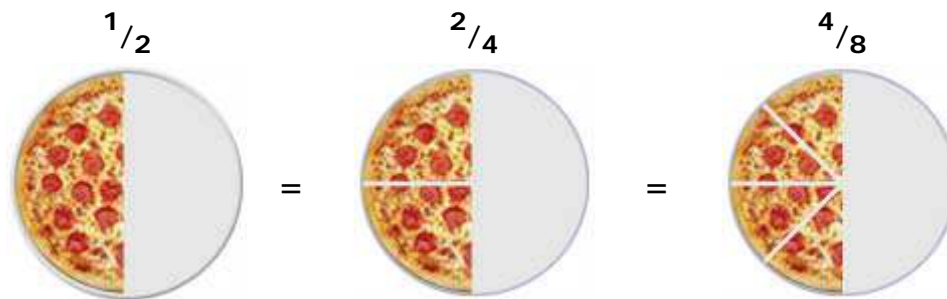
Greatest Common Factor

Consider the numbers 18, 24, and 36

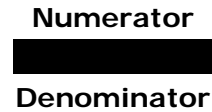
The greatest common factor is 6.

(6 is the largest integer that will divide evenly into all three numbers)

Equivalent

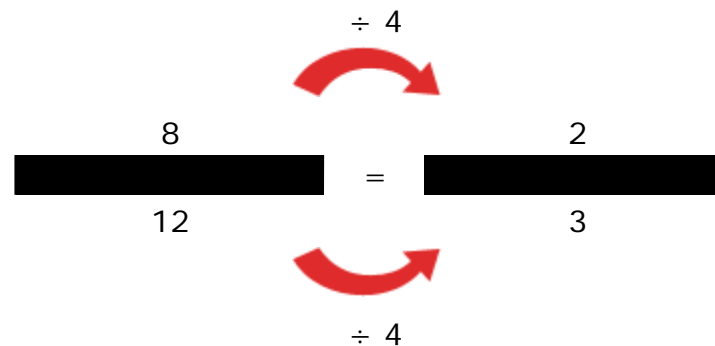


Fraction



Top number = **Numerator** = number of parts you have
Bottom number = **Denominator** = number of parts the whole is divided into

Simplest Form

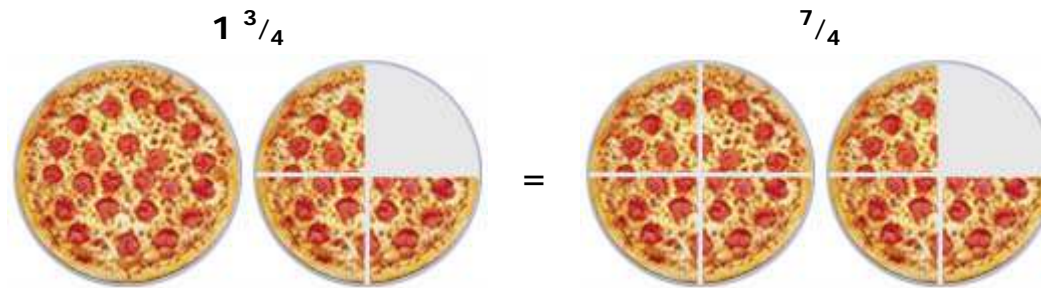


And the answer is: $\frac{2}{3}$

Mixed Number

Mixed Fractions = Improper Fractions

You can use either an improper fraction or a mixed fraction to show the same amount



Proper Fraction



$\frac{3}{8}$
(Three-Eighths)

A Proper Fraction has a numerator (top number) less than its denominator (bottom number),

such as $\frac{3}{8}$ or $\frac{4}{5}$

Improper Fraction



$7/4$

(seven-fourths or seven-quarters)

An Improper fraction has a numerator (top number) larger than or equal to the denominator (bottom number),

such as $7/4$ or $4/3$

*(It is "**top-heavy**")*

Multiple

Example: $4 \times 5 = 20$

20 is a multiple of 4 and also of 5

These are some of the multiples of 3: 12, 15, 18, 21

Common Multiple

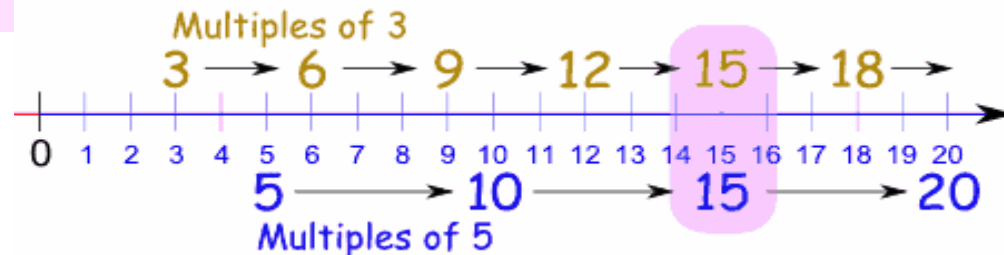
Multiples found in both numbers

The multiples of 4 are 8, 12, 16, **20**, 24, 28, 32, 36, **40**, 44, ...

The multiples of 5 are 10, 15, **20**, 25, 30, 35, **40**, 45, 50, ...

Least Common Multiple

The multiples of 3 are 6, 9, 15, ... The multiples of 5 are 10, 15, 20, ...



Least Common Denominator

$$\begin{array}{ccc} & \times 3 & \\ & \curvearrowright & \\ 3 & & 9 \\ \blacksquare & = & \blacksquare \\ 8 & & 24 \\ & \curvearrowleft & \\ & \times 3 & \end{array}$$

and

$$\begin{array}{ccc} & \times 2 & \\ & \curvearrowright & \\ 5 & & 10 \\ \blacksquare & = & \blacksquare \\ 12 & & 24 \\ & \curvearrowleft & \\ & \times 2 & \end{array}$$

Rational Number

$$\frac{a}{b}$$

Any number that can be made by dividing one integer by another. The word comes from "ratio".

Examples:

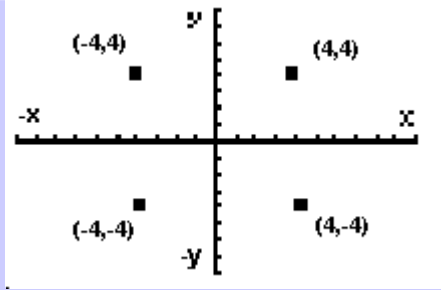
1/2 is a rational number (1 divided by 2, or the ratio of 1 to 2)

0.75 is a rational number (3/4)

1 is a rational number (1/1)

2 is a rational number (2/1)

Coordinate Plane



Where there is a **negative** number:
go **backwards** for x or **down** for y

For example (-4,4) means:
go **back** along the x axis 4 then go up 4.
Now(-4,-4) means:
go **back** along the x axis 4 then go **down** 4.

Origin

The starting point = 0

X-Axis



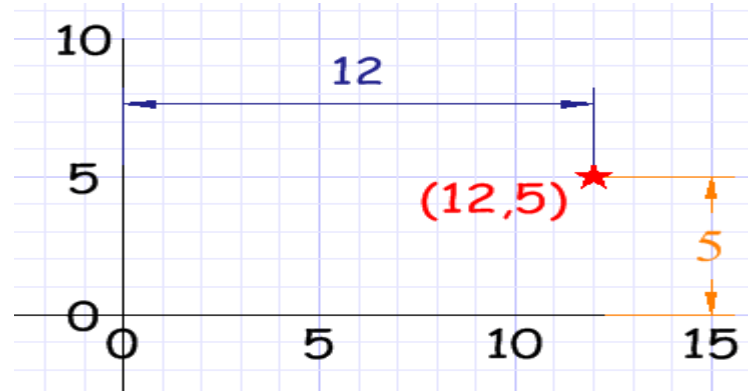
The X Axis runs horizontally through zero

The Y Axis runs vertically through zero

Y-Axis

Ordered Pair

Two numbers written in a certain order to show the position on a graph, where the "x" (horizontal) value is first, and the "y" (vertical) value is second



X-Coordinate

The horizontal value in a pair of coordinates. How far along the point is.

Always written first in an *ordered pair* of coordinates (x,y) , such as $(12,5)$

Y-Coordinate

The vertical value in a pair of coordinates. How far up or down the point is.

Always written second in an *ordered pair* of coordinates (x,y) such as $(12,5)$

Graph

Standard Form

Expanded Form

Equivalent
Decimals

Clustering

Front-End Estimation