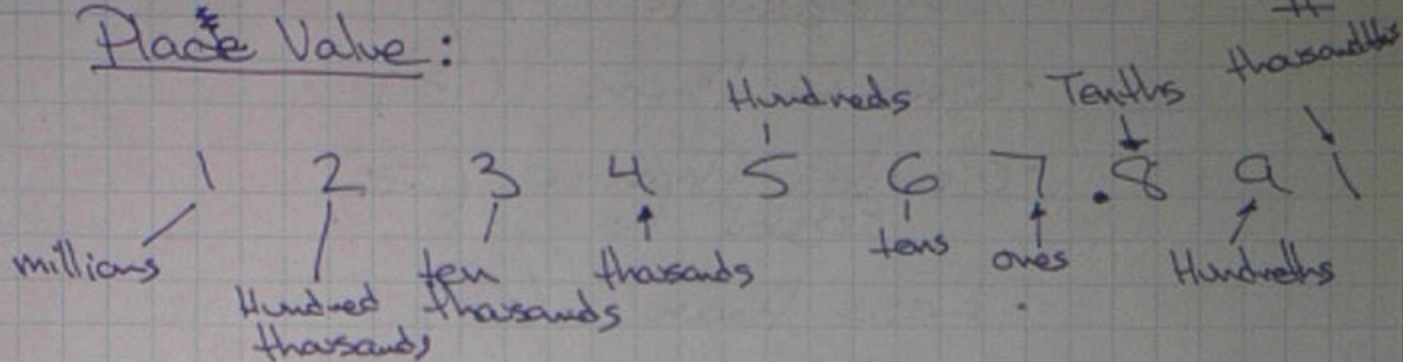


Nov 19th, 2020

Decimals, Percents : Fractions

* All used to represent parts of whole #

Place Value:



* Convert a # into a % you $\times 100\%$

* Convert a % into a # $\div 100$

$$\text{example: } \frac{7}{8} = 0.875 \xrightarrow{\times 100} \underline{87.5\%}$$

$$47\% \xrightarrow{\div 100} 0.47 \text{ or } \frac{47}{100}$$

Rules for Operations with Fractions

* Adding : Subtracting: you MUST have a common denominator (i.e. same denominator)

Numerator

* Denominator

$$\text{example: } \frac{3}{4} + \frac{1}{6}$$

find common multiple b/w the two denominators

$$4: 4, 8, \underline{12}, 16, 20, 24 \dots$$

$$6: 6, \underline{12}, 18, \underline{24}, 30 \dots$$

* add numerators ONLY

$$\frac{3 \times 3}{4 \times 3} + \frac{1 \times 2}{6 \times 2} = \frac{9}{12} + \frac{2}{12} = \frac{9+2}{12} = \frac{11}{12}$$

Mixed #'s eg $3\frac{2}{7}$
↑ wholes ← how many parts
 ← how many parts makes the whole

eg: $3\frac{1}{2} - 1\frac{1}{4}$

* Improper fraction where Numerator > denominator

$$3\frac{2}{7} \rightarrow \frac{23}{7}$$

$$\frac{7 \times 2}{2 \times 2} - \frac{5}{4} = \frac{14}{4} - \frac{5}{4} = \frac{14-5}{4} = \frac{9}{4} \rightarrow 2\frac{1}{4}$$

* Multiplying: multiply numerator to numerator
; denominator to denominator
(i.e. straight across)

$$\text{eg. } \frac{5}{6} \times \frac{3}{4} = \frac{5 \times 3}{6 \times 4} = \frac{15}{24} \xrightarrow{:3} \frac{5}{8}$$

eg. Mixed #'s \Rightarrow Always convert to a
improper fraction 1st

$$2\frac{3}{5} \times 4\frac{1}{4} \Rightarrow \frac{13}{5} \times \frac{17}{4}$$

$$= \frac{13 \times 17}{5 \times 4} = \frac{221}{20} \Rightarrow 11\frac{1}{20}$$

Dividing: flip the 2nd fraction
(i.e. reciprocal) and change
the \div into \times

example: $\frac{3}{8} \div \frac{2}{4}$ Flip

$$\frac{3}{8} \times \frac{4}{2} = \frac{3 \times 4}{8 \times 2} = \frac{12}{16} = \frac{3}{4}$$

example: Convert into Improper fraction^{1st}

$$1\frac{3}{5} \div 2\frac{5}{6}$$

$$\frac{8}{5} \div \frac{17}{6} \text{ Flip}$$

$$\frac{8}{5} \times \frac{6}{17} = \frac{8 \times 6}{5 \times 17} = \frac{48}{85}$$