

Volume I

MEMORIZATION LIST

$3 \times 3 = 9$
 $3 \times 4 = 12$
 $3 \times 6 = 18$
 $3 \times 7 = 21$
 $3 \times 8 = 24$
 $4 \times 8 = 32$
 $6 \times 7 = 42$
 $6 \times 8 = 48$
 $7 \times 7 = 49$
 $7 \times 8 = 56$
 $8 \times 8 = 64$



MULTIPLYING WITH DECIMALS

$$\begin{array}{r}
 753.26 \\
 \times .3247 \\
 \hline
 527282 \\
 3013040 \\
 15065200 \\
 +225978000 \\
 \hline
 244.583522
 \end{array}$$

How many numbers after the points?
 Answer has same.

US MEASUREMENT

DISTANCE

12 INCHES = 1 FOOT
 3 FEET = 1 YARD
 5,280 FEET = 1 MILE

WEIGHT

16 OUNCES = 1 POUND
 2,000 POUNDS = 1 TON

VOLUME

3 TEASPOONS = 1 TABLESPOON
 2 TABLESPOONS = 1 FL OZ
 8 FLUID OUNCES = 1 CUP
 2 CUPS = 1 PINT
 4 CUPS = 1 QUART
 4 QUARTS = 1 GALLON

Volume II

TO ADD OR SUBTRACT FRACTIONS

GET A COMMON DENOMINATOR FIRST

$$\frac{1}{2} + \frac{1}{8} = \frac{4}{8} + \frac{1}{8} = \frac{5}{8}$$

MULTIPLYING WITH FRACTIONS

MULTIPLY STRAIGHT ACROSS

$$\frac{3}{4} \times \frac{1}{5} = \frac{3}{20}$$

DIVIDING FRACTIONS

FLIP AND THEN MULTIPLY

$$\frac{2}{5} \div \frac{2}{3} = \frac{2}{5} \times \frac{3}{2} = \frac{6}{10}$$

CONVERT FRACTIONS INTO DECIMALS

(NUMERATOR DIVIDED BY DENOMINATOR)

$\frac{1}{4} = .25$ $\frac{3}{4} = .75$
 $(1 \div 4 = .25)$ $(3 \div 4 = .75)$

$\frac{1}{2} = .5$ $\frac{4}{4} = 1.00$
 $(1 \div 2 = .5)$ $(4 \div 4 = 1)$

PERCENTAGES

WHAT IS 30% OF 45?

$$x = .3 \times 45 \\
 x = 13.5$$

10% = .10
 35% = .35
 78% = .78
 100% = 1

IMPROPER FRACTIONS

$$2\frac{5}{8} = \frac{21}{8}$$

Multiply these, then add the numerator:
 $16 + 5 = 21$

NEGATIVE NUMBERS

$-3 + -6 = -9$ $-5 - -3 = -2$
 Negative numbers are money you owe.
 Positive numbers are money you have.
 Negative negative -- equals ++ Plus plus.

$-15 \div 3 = -5$ $-3 \times -4 = 12$
 Multiply or divide as usual
 Same signs = Positive Answer
 Different signs = Negative Answer

MIXED NUMBERS

<p>Addition</p> $ 1\frac{3}{9} + 2\frac{1}{9} = 3\frac{4}{9} $ <p>Get Common Denominator, add whole numbers and then numerators.</p>	<p>Subtraction</p> $ 5\frac{2}{5} - 3\frac{4}{5} = \frac{27}{5} - \frac{19}{5} = \frac{8}{5} = 1\frac{3}{5} $ <p>Make Improper Fractions, subtract, convert back to mixed number.</p>
<p>Multiplication</p> $ 3\frac{1}{4} \times 2\frac{3}{7} = \frac{13}{4} \times \frac{17}{7} = \frac{221}{28} = 7\frac{25}{28} $ <p>Make Improper Fractions, multiply straight across, convert back to mixed number.</p>	<p>Division</p> $ 4\frac{1}{5} \div 2\frac{1}{3} = \frac{21}{5} \div \frac{7}{3} = \frac{21}{5} \times \frac{3}{7} = \frac{9}{5} = 1\frac{4}{5} $ <p>Make Improper Fractions, flip, multiply straight across, convert back to mixed number.</p>