

FRACTIONS

To add/subtract like fractions

(fractions w/ the same denominator)

1. Add/subtract the numerators (the # on the top)
2. Use the same denominator in the problem in the answer
3. Reduce to put in simplest form

$$\frac{3}{10} + \frac{2}{10} = \frac{5}{10} = \frac{1 * \cancel{5}}{2 * \cancel{5}} = \frac{1}{2}$$

To add/subtract unlike fractions

(fractions w/ different denominators)

1. To add/subtract unlike fractions, you must change them to like fractions
2. To do this you, you must find a common denominator
3. The easiest way to find a common denominator is to multiply them together
4. Then, multiply each numerator by the same thing as the denominator
5. Finally, add the two fractions together as above

$$\frac{3}{6} + \frac{1}{4} = \frac{3 * 4}{6 * 4} + \frac{1 * 6}{4 * 6} = \frac{12}{24} + \frac{6}{24} = \frac{18}{24} = \frac{\cancel{2} * 3 * \cancel{3}}{\cancel{2} * 2 * 2 * \cancel{3}} = \frac{3}{4}$$

To multiply fractions

1. Multiply the numerators
 2. Multiply the denominators
 3. Reduce to put into simplest form
- * you do not have to find a common denominator, just multiply across

$$\frac{5}{6} * \frac{4}{5} = \frac{20}{30} = \frac{\cancel{2} * 2 * \cancel{5}}{\cancel{2} * 3 * \cancel{5}} = \frac{2}{3}$$

To divide fractions

1. Change the operation sign to multiplication and change the second fraction (the divisor) to its reciprocal
- In other words, change the sign and flip the numbers on the second fraction
2. Follow the rules for multiplying fractions
3. Reduce to put in simplest form

$$\frac{4}{7} \div \frac{2}{3} = \frac{4}{7} * \frac{3}{2} = \frac{12}{14} = \frac{\cancel{2} * 2 * 3}{\cancel{2} * 7} = \frac{6}{7}$$