

Accelerated Math Notes  
(Section 3-5)  
Adding & Subtracting Like Fractions

Recall:

\*To add or subtract fractions you must have a Common denominator.

\* Addition Rules:

Same signs? or Different signs?  
 neg+neg } Add abs. values  
 pos+pos } Attach same sign  
 neg+pos } Subtract absolute values  
 Use the sign of # with larger absolute value

\* Subtraction = Addition of the additive inverse

$$\frac{1}{12} - \frac{7}{12}$$

$$\frac{1}{12} + \frac{-7}{12} = \frac{1+(-7)}{12} = \frac{-6}{12} = \left(\frac{-1}{2}\right)$$

Find each sum or difference. Write answer in simplest form.

$$\frac{5}{8} + \frac{-7}{8}$$

$$\frac{5+(-7)}{8} = \left(\frac{-2}{8}\right) = \left(\frac{-1}{4}\right)$$

$$\frac{3}{10} - \frac{9}{10}$$

$$\frac{3}{10} + \frac{-9}{10} = \frac{3+(-9)}{10} = \frac{-6}{10} = \left(\frac{-3}{5}\right)$$

$$-\frac{1}{6} + 7\frac{1}{6}$$

Subt abs. values → Ans. pos

$$7\frac{1}{6} = 6\frac{7}{6}$$

$$-\frac{1}{6} = \frac{1}{6}$$

$$6\frac{7}{6} - \frac{1}{6} = 6\frac{6}{6} = 6 + 1 = 7$$

Ans. pos  $7$

$$-8\frac{4}{5} + -2\frac{3}{5}$$

Add abs values → Ans. neg

$$8\frac{4}{5} + 2\frac{3}{5} = 10\frac{7}{5} = 10 + 1\frac{2}{5} = 11\frac{2}{5}$$

Ans. neg  $-11\frac{2}{5}$

Evaluate each expression.  $a = -\frac{5}{12}$   $b = \frac{1}{12}$   $c = -\frac{7}{12}$

$a+b+c$

$$-\frac{5}{12} + \frac{1}{12} + \frac{-7}{12}$$

$$\frac{-5+1+(-7)}{12} = \frac{-11}{12}$$

$a-c$

$$-\frac{5}{12} - \left(\frac{-7}{12}\right)$$

$$-\frac{5}{12} + \frac{7}{12} = \frac{-5+7}{12} = \frac{2}{12} = \left(\frac{1}{6}\right)$$

$c-b$

$$-\frac{7}{12} - \frac{1}{12}$$

$$-\frac{7}{12} + \frac{-1}{12} = \frac{-7+(-1)}{12} = \frac{-8}{12} = \left(\frac{-2}{3}\right)$$

$a+c$

$$-\frac{5}{12} + \frac{-7}{12}$$

$$\frac{-12}{12} = -1$$

Word Problems:

1) Jon ran  $3\frac{1}{8}$  miles on Saturday. Paul ran  $2\frac{5}{8}$  miles. How many more miles did Jon run than Paul?

$$3\frac{1}{8} - 2\frac{5}{8}$$

$$3\frac{1}{8} = 2\frac{9}{8}$$

$$2\frac{9}{8} - 2\frac{5}{8} = 2\frac{4}{8} = 2\frac{1}{2} = 2\frac{1}{2} \text{ mi}$$

2) Sara has  $12\frac{1}{4}$  yards of ribbon. She uses  $9\frac{3}{4}$  yards on a project. How many yards of ribbon does she have left?

$$12\frac{1}{4} - 9\frac{3}{4}$$

$$12\frac{1}{4} = 11\frac{5}{4}$$

$$11\frac{5}{4} - 9\frac{3}{4} = 2\frac{2}{4} = 2\frac{1}{2} \text{ yd}$$

3) Tom was  $59\frac{3}{8}$  inches tall at the end of 6th grade. By the end of 7th grade he had grown  $1\frac{7}{8}$  inches more. How tall is he now?

$$59\frac{3}{8} + 1\frac{7}{8}$$

$$59\frac{3}{8} + 1\frac{7}{8} = 60\frac{10}{8} = 61\frac{2}{8} = 61\frac{1}{4} \text{ in}$$