

1.1 Operations with Fractions NOTES

Adding Fractions

Steps

- convert fractions so all fractions have the same denominator.
- ADD the numerators.
- KEEP the denominator.
(Reduce if possible)

Example $\frac{1}{4} + \frac{1}{3}$

$$\frac{3}{12} + \frac{4}{12} = \boxed{\frac{7}{12}}$$

Subtracting Fractions

Steps

- SUBTRACT the numerators

Example $\frac{1}{4} - \frac{1}{3}$

$$\frac{3}{12} - \frac{4}{12} = \boxed{\frac{-1}{12}}$$

All fractions must be proper or improper to start with

Fractions

Multiplying Fractions

Steps

- Put any whole numbers over 1.
- MULTIPLY straight across Top & bottom.
(reduce if possible)

Example

$$\frac{3}{4} \times \frac{5}{1} = \boxed{\frac{15}{4}}$$

$$\frac{2}{7} \times \frac{10}{3} = \boxed{\frac{20}{21}}$$

Dividing Fractions

Steps

- **KEEP** the first fraction.
- **CHANGE** the sign. \div to \times
- **FLIP** the second fraction.
- Multiply straight across.

Example

(reduce if possible)

$$\frac{7}{8} \div \frac{1}{2}$$

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$$\frac{7}{8} \times \frac{2}{1} = \frac{14}{8} \xrightarrow{\div 2} \boxed{\frac{7}{4}}$$

reduce

Smiley Face Method (for +/- ONLY)

$\frac{5}{6} + \frac{1}{4} = \frac{26}{24}$

Multiply when creating the face.

reduce

$$= \frac{13}{12}$$