Fractions: Add & Subtract

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How to add and subtract fractions:

1. Find the least common denominator (LCD), which is the smallest number that both denominators will divide into evenly.

$\frac{1}{3}+\frac{3}{4}=?$ LCD = 12 $\frac{2}{3}-\frac{2}{12}=?$ LCD = 12

2. Convert the fraction(s) so that they both have the same LCD.
Before doing this, ask yourself what number you would have to multiply the denominator of each fraction by, to get the LCD. Once you determine that number, multiply it by the numerator of that fraction. Do this for each fraction that you need to change in order to add them.

$\frac{4}{4}*\frac{1}{3}+\frac{3}{3}*\frac{3}{4}=\frac{4}{12}+\frac{9}{12}$ $\frac{4}{4}*\frac{2}{3}-\frac{1}{1}*\frac{2}{12}=\frac{8}{12}-\frac{2}{12}$

3. Now add/subtract the numerators of the fractions. The denominator (LCD) stays the same.

$\frac{4}{12}+\frac{9}{12}=\frac{13}{12}$ 4 + 9 = 13 $\frac{8}{12}-\frac{2}{12}=\frac{6}{12}$ 8 – 2 = 6

4. Simplify the fraction if the numerator is divisible by or equal to the denominator.
$\frac{13}{12}$ Not divisible, so no simplification $\frac{6}{12}=\frac{1}{2}$ Divisible by 6.

Guided Problems:

A) $\frac{2}{5}+\frac{3}{7}=?$ B) $\frac{8}{10}-\frac{1}{5}=?$

1. Find the LCD. A) _____ B) _____

2. Convert the fractions so that they both have the same LCD.

A) $-*\frac{2}{5}+-*\frac{3}{7}=-+-$ B) $-*\frac{8}{10}--*\frac{1}{5}=---$

3. Add the fractions (denominator stays the same).

A) $\frac{\square}{\square} + \frac{\square}{\square} = \frac{\square}{\square}$ B) $\frac{\square}{\square} - \frac{\square}{\square} = \frac{\square}{\square}$

4. Simplify if possible.

A) $\frac{\square}{\square} = \frac{\square}{\square}$ **or** No simplification B) $\frac{\square}{\square} = \frac{\square}{\square}$ **or** No simplification

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Practice Problems:

Adding:

A) $\frac{4}{7} + \frac{3}{5} = ?$ B) $\frac{3}{4} + \frac{2}{6} = ?$ C) $\frac{2}{3} + \frac{1}{12} = ?$

Subtracting:

A) $\frac{2}{3} - \frac{1}{4} = ?$ B) $\frac{4}{5} - \frac{1}{2} = ?$ C) $\frac{6}{8} - \frac{1}{2} = ?$