

Fractions

What do you know?

LCD \Rightarrow ?? (common denominator)

multiply top/bottom

What is the main step?

Simplify * common denominator

$$\begin{array}{r} 9 \cdot \frac{3}{5} + \frac{7 \cdot 5}{9 \cdot 5} \\ \frac{27}{45} + \frac{35}{45} \\ \frac{62}{45} \end{array}$$

$$\begin{array}{r} \cancel{\frac{3}{5} + \frac{7}{9}} \\ \hline 27 + 35 \\ 45 \\ \hline \frac{62}{45} \end{array}$$

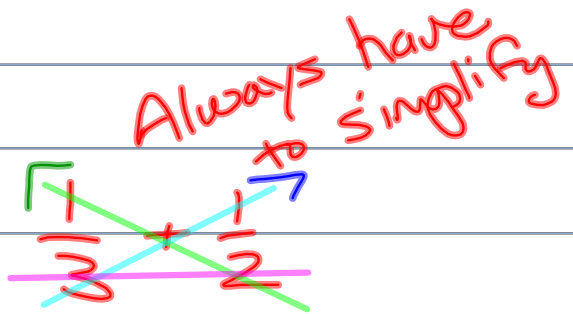
Fractions

$$\frac{1}{3} + \frac{1}{2}$$

LCD

$$2 \cdot \frac{1}{3} + \frac{1}{2} \cdot 3$$

$$2 \cdot \frac{2}{3} + \frac{1}{2} \cdot 3$$



$$\frac{2}{6} + \frac{3}{6}$$

$$\frac{2 + 3}{6}$$

$$\frac{5}{6}$$

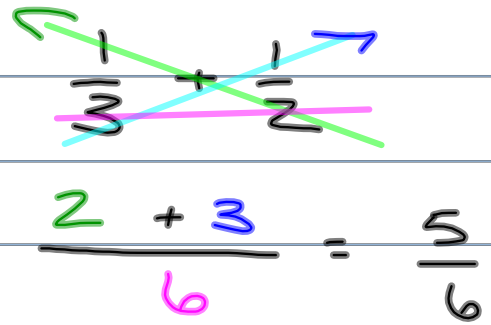
$$\frac{5}{6}$$

Fractions

$$\frac{1}{3} + \frac{1}{2}$$

LCD

$$\frac{2 \cdot 1}{2 \cdot 3} + \frac{1 \cdot 3}{2 \cdot 3}$$
$$\frac{2}{6} + \frac{3}{6}$$
$$\frac{5}{6}$$



The diagram shows the original fractions $\frac{1}{3} + \frac{1}{2}$ with a pink horizontal line under the denominators 3 and 2. A green arrow points from the 3 in the denominator of the first fraction to the 3 in the numerator of the second fraction's denominator. A blue arrow points from the 2 in the denominator of the second fraction to the 2 in the numerator of the first fraction's denominator. The original denominators 3 and 2 are crossed out with a pink line.

$$\frac{2}{6} + \frac{3}{6} = \frac{5}{6}$$

Fractions

$$\frac{1}{3} + \frac{1}{2}$$

$$2 \cdot \frac{1}{3} + \frac{1 \cdot 3}{2 \cdot 3}$$

~~$$\frac{1}{3} + \frac{1}{2}$$~~

$$\frac{2}{6} + \frac{3}{6} = \frac{5}{6}$$

$$\frac{2 + 3}{6} = \frac{5}{6}$$

$$\frac{1}{9} + \frac{5}{3} \cdot 3$$

$$\frac{1}{9} + \frac{15}{9}$$

$$\frac{16}{9}$$

~~$$\frac{1}{9} + \frac{5}{3}$$~~

$$\frac{3 + 45}{27}$$

$$\frac{48}{27} \div 3 = \frac{16}{9}$$

LCD

$$\frac{1}{9} + \frac{5 \cdot 3}{3 \cdot 3}$$

$$\frac{1}{9} + \frac{15}{9}$$

$$\frac{16}{9}$$

Cross

Always Simplify

$$\frac{\cancel{1}}{\cancel{9}} + \frac{\cancel{5}}{\cancel{3}}$$

$$\frac{3 + 45}{27}$$

$$\frac{48 \div 3}{27 \div 3} = \frac{16}{9}$$

$$\frac{4 \cdot 2x}{4 \cdot 5} - \frac{7x \cdot 5}{4 \cdot 5} \quad \frac{2x}{5} - \frac{7x}{4}$$

$$\frac{8x}{20} - \frac{35x}{20}$$

$$\frac{-27x}{20}$$

$$4 \cdot \frac{2x}{5} - \frac{7x \cdot 5}{4 \cdot 5}$$

$$\frac{8x}{20} - \frac{35x}{20}$$

$$\frac{-27x}{20}$$

	<u>Poll</u> <u>common/x</u>
$\frac{4 \cdot 2x}{4 \cdot 5} - \frac{7x \cdot 5}{4 \cdot 5}$	$\frac{2x}{5} - \frac{7x}{4}$
$\frac{8x}{20} - \frac{35x}{20}$	$\frac{8x}{20} - \frac{35x}{20}$
$\frac{-27x}{20}$	$\frac{-27x}{20}$

Solve for x

$$\frac{2x}{3} + \frac{5x}{3} = \frac{1}{2}$$

Goal:
Fraction = Fraction

single fraction

$$\frac{2x+5x}{3} = \frac{1}{2}$$

~~$$\frac{7x}{3} = \frac{1}{2}$$~~

$$14x = 3$$

$$x = \frac{3}{14}$$

Solve
* cross
multiply

Solve for x

$$\frac{2x}{3} + \frac{5x}{3} = \frac{1}{2}$$

Goal
Fraction = Fraction

Combine the fractions

$$\frac{2x + 5x}{3} = \frac{1}{2}$$

to solve

~~$$\frac{7x}{3} = \frac{1}{2}$$~~

* cross multiply

$$14x = 3$$

$$x = \frac{3}{14}$$

$$\frac{2x}{3} + \frac{5x}{3} = \frac{1}{2}$$

~~$$\frac{7x}{3} = \frac{1}{2}$$~~

$$14x = 3$$

$$x = \frac{3}{14}$$

Homework

$$\frac{3}{5x} + \frac{7}{4x} = \frac{3}{8}$$

$$\frac{7}{4x} + \frac{3}{x} = \frac{1}{2}$$

$$\frac{3x}{2} + \frac{4x}{7} = 10$$

$$\frac{1}{2x} + \frac{3x}{4} = 7$$

Homework

$$\frac{3}{5x} + \frac{7}{4x} = \frac{3}{8}$$

$$\frac{7}{4x} + \frac{3}{x} = \frac{1}{2}$$

$$\frac{3x}{2} + \frac{4x}{7} = 10$$

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Homework

$$\frac{3}{5x} + \frac{7}{4x} = \frac{3}{8}$$

$$\frac{7}{4x} + \frac{3}{x} = \frac{1}{2}$$

$$\frac{3x}{2} + \frac{4x}{7} = 10$$

$$\frac{1}{2x} + \frac{3x}{4} = 7$$



A blank coordinate plane for graphing. It features a vertical y-axis on the left side and 15 horizontal grid lines extending across the page. The grid lines are evenly spaced and provide a structure for plotting mathematical functions or data points.

A blank coordinate grid for graphing. It features a vertical y-axis on the left side and 18 horizontal x-axis lines extending to the right. The grid is currently empty, with no data points or lines plotted.

A blank coordinate grid for graphing. It features a vertical y-axis on the left side and 18 horizontal x-axis lines extending to the right. The grid is currently empty, with no data points or lines plotted.