Equations with Multiple Fractions

FRACTIONS!

$$12\left(\frac{y}{12}\right)=\left(\frac{2}{3}\right)12$$

$y = \frac{24}{3}$

$y = 8$

Multiply both sides by the lowest common multiple of the denominators

$$15\left(\frac{x+1}{3}\right)=\left(\frac{x-1}{5}\right)15$$

$\frac{15x+15}{3} = \frac{15x-15}{5}$

$5x+5 = 3x-3$

$-3x \quad -3x$

$2x+5 = -3$

$-5 \quad -5$

$\frac{2x}{2} = \frac{-8}{2}$

$x = -4$

FRACTIONS!

$$8\left(\frac{x}{4}\right)=\left(\frac{x}{2}-1\right)8$$

$\frac{8x}{4} = \frac{8x}{2} - 8$

$2x = 4x - 8$

$-4x \quad -4x$

$\frac{-2x}{-2} = \frac{-8}{-2}$

$x = 4$

Multiply both sides by the lowest common multiple of the denominators

$$\frac{1}{3}x - 10 = -\frac{1}{2}x$$

Rewrite: $\left(\frac{x}{3}-10\right)6=\left(\frac{-x}{2}\right)6$

$\frac{6x}{3} - 60 = \frac{-6x}{2}$

$2x - 60 = -3x$

$-2x \quad -2x$

$\frac{-60}{-5} = \frac{-5x}{-5}$

$12 = x$