

~~ CLEARING FRACTIONS ~~

Look at the fractions and multiply each term in the equation by the **Least Common Denominator** (number all go INTO evenly).

$-\frac{5}{6}x + \frac{1}{2} = \frac{3}{4}$

$3(-\frac{5}{6}x) + 3(\frac{1}{2}) = 3(\frac{3}{4})$

$-10x + 6 = 9$

$-10x + 6 - 6 = 9 - 6$

$-10x = 3$

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

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

LCD of 2, 4, 6 is 12

Multiply each term by 12

Denominators cancel when cross reducing & fractions are gone!

LCD: # all go INTO

- LCD can NEVER be less than your biggest denominator

$\frac{2}{7}x - 3 = \frac{5}{14}$

$2 \cdot 14(\frac{2}{7}x) - 14(3) = 14(\frac{5}{14})$

$4x - 42 = 5$

$\frac{4x - 42 + 42}{4} = \frac{5 + 42}{4}$

$\frac{4x}{4} = \frac{47}{4}$

$x = \frac{47}{4}$

$(-\frac{58}{9} + \frac{3}{2}x = -\frac{4}{3} + \frac{5}{2}x + 2) \cdot 18$

$18(-\frac{58}{9}) + 18(\frac{3}{2}x) = 18(-\frac{4}{3}) + 18(\frac{5}{2}x + 2)$

$-116 + 27x = -24 + 30x + 36$

$-116 + 27x = -24 + 75x - 60$

$-116 + 27x = -84 + 75x$

$-116 = -84 + 48x$

$+84 \quad +84$

$-32 = 48x$

$\frac{-32}{48} = \frac{48x}{48}$

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

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~~ CLEARING DECIMALS ~~

Identify the term with the most decimal places in the equation.

$0.25x + 0.6 = 0.1$

$100(0.25x + 0.6) = 100(0.1)$

$100(0.25x) + 100(0.6) = 100(0.1)$

$25x + 60 = 10$

$25x + 60 - 60 = 10 - 60$

$25x = -50$

$\frac{25x}{25} = \frac{-50}{25}$

$.25$ is the hundredths place

multiply each term by the reciprocal of that place value (reciprocal of $\frac{1}{100}$ is 100.)

$(-2.5n + 2.1(-3n - 2.2) = -31.02) \cdot 100$

$100(-2.5n) + 100(2.1(-3n - 2.2)) = 100(-31.02)$

$-250n + 210(-3n - 2.2) = -3102$

$-250n + -630n + -462 = -3102$

$-880n + -462 = -3102$

$\quad \quad \quad +462 \quad +462$

$-880n = -2640$

$\frac{-880n}{-880} = \frac{-2640}{-880}$

n = 3

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Distribute - Multiply the number in front of the parentheses with each term inside the parentheses.

- Clear Fractions (Include the sign in front!) cannot be split up by
- Multiply each term by the least common denominator. Then cross reduce the denominator to get rid of.

- Box terms - Include the sign in front of each term.
- Draw a line down the equal sign.

- Label one side for variables (x) and the other for numbers (#'s).
- Sort Terms. When a term crosses the equal, its sign must change.
- Simplify - combine like terms.

Divide both sides by the coefficient or number in front. Then simplify it out.

$$\frac{4x-7}{3} = -4(3-2x) - 7$$

$$\frac{4x-7}{3} = -12 + 8x - 7$$

$$3\left(\frac{4x-7}{3}\right) = 3(-12) + 3(8x) + 3(-7)$$

$$\boxed{4x} - \boxed{7} = \boxed{-36} + \boxed{24x} - \boxed{21}$$

$$\boxed{4x} - \boxed{7} = \boxed{-36} + \boxed{24x} - \boxed{21}$$

$$4x - 7 = -36 + 24x - 21$$

$$-20x = -50$$

$$\frac{-20x}{-20} = \frac{-50}{-20}$$

$$x = \frac{5}{2}$$

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