

My Algebra Success Guide

TOPIC
Solving Linear
Equations Containing
Fractions

SECTION

2.3

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KEY ALGEBRA CONCEPT

- 1.) Use LDC to clear fractions by distributing LCD through the whole equation
- 2.) Use Addition/Multiplication Properties of Equality
- 3.) A Linear Equation is where the variable is raised to oneth power

KEY FORMUALS

Distributive Property: $a(b+c) = ab + ac(1.8)$
Additive Inverse Property: $a + (-a) = 0(1.8)$
*Multiplicative Inverse Property: $a * 1/a = 1(1.8)$*

EXAMPLE

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

$$LCD = 4$$

$$4\left(\frac{5}{2}x - 1 = x + \frac{1}{4}\right)$$

$$4\left(\frac{5}{2}x\right) - 4(1) = 4(x) + 4\left(\frac{1}{4}\right)$$

$$10x - 4 = 4x + 1$$

$$10x - 4x = 4 + 1$$

$$6x = 5$$

$$x = \frac{5}{6}$$

PROCESS(STEPS)/NOTES

- 1.) Find LCD
- 2.) Distribute LCD through whole equation
- 3.) Simplify Equation
- 4.) Use Additive Property of Equality(2.2) to isolate the variable x on one side of the equation
- 5.) Combine like terms (Note: I'm using the Additive Inverse Property(1.8) here)
- 6.) Use Multiplicative Property of Equality(2.2) to multiply both sides of the equation by Multiplicative Inverse of 6, which is 1/6.
- 7.) Check Solution:

$$\frac{5}{2}\left(\frac{5}{6}\right) - 1 = \frac{5}{6} + \frac{1}{4}$$

$$\frac{25}{12} - 1 = \frac{10+3}{12}$$

$$\frac{25-12}{12} = \frac{13}{12}$$

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

EXAMPLE (CONTINUED)

PROCESS/NOTES (CONTINUED)