Solving 2-Step Equations

May 2, 2019 9:56 AM

* When Solving for a variables value, follow SA MD EB

- SA: do any add/sub 1st
- MD: then do any mult/div 2nd
- EB: then exponents 3rd and Brackets LAST! even if there is adding inside!

* But when checking your answer, you need to substitute the value into the original equation and Follow BEDMAS.

Solve and Check:

a) $-3x + 3 = 12$

Coeff V LS RS

$-3x + 3 - 3 = 9 - 3$

$\frac{-3x}{-3} = \frac{9}{-3}$

$x = -3$

Check: LS $-3x + 3$, RS 12

$-3(-3) + 3$

$9 + 3$

12 ✓

b) $8 = 4x - 8$

LS RS

$8 + 8 = 4x - 8 + 8$

$\frac{16}{4} = \frac{4x}{4}$

$4 = x$

Check: LS 8, RS $4x - 8$

8 ✓

$4(4) - 8$

$16 - 8$

8 ✓

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

M-2 LS A-1st RS

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

$2x = \frac{1}{2} \div 2$

Check: LS $2x + \frac{1}{4}$, RS $\frac{3}{4}$ ✓

$\frac{2}{1}\left(\frac{1}{4}\right) + \frac{1}{4}$

$\frac{2}{4} + \frac{1}{4}$

$2x = \frac{1}{2}$ ÷2 ÷2

$x = \frac{1}{4}$

$\frac{2}{4} + \frac{1}{4}$

$\frac{3}{4}$ ✓

d) $-\frac{3}{5} = -2x + \frac{1}{10}$

LS RS

$-\frac{1}{10}$ $-\frac{1}{10}$

$-\frac{7}{10} = -2x$

÷2 ÷ −2

Negative coeff so ÷ by −

$\frac{7}{20} = x$

LS RS

$-\frac{3}{5} = -2x + \frac{1}{10}$ ✓

$-2\left(\frac{7}{20}\right) + \frac{1}{10}$

$-\frac{14}{20} + \frac{2}{20}$

$-\frac{12}{20}$

$-\frac{3}{5}$ ✓

e) $-0.77 = 5.51 + 4.3w$

LS RS

cons. coef var.

−5.51 −5.51

$-6.28 = 4.3w$

÷4.3 ÷4.3

$-1.5 = w$

f) $2d + \frac{1}{2} = 1\frac{1}{4}$

LS R

$+\frac{1}{2}$ $+\frac{2}{4}$

$2d = \frac{7}{4}$ ÷2

÷2

$d = \frac{7}{8}$

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Check answers pg 481

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