

EQUATIONS WITH VARIABLES ON BOTH SIDES

Worksheet

Solve the problems below. Show all work.

A. $2.5x + 3.7 = 1.4x + 8.2$
 $-1.4x - 3.7 -1.4x - 3.7$
 $\frac{1.1x}{1.1} = \frac{4.5}{1.1}$
 $x = 4.09\dots$

B. $4.6x - 1.3 = 2.1x + 5.9$
 $-2.1x + 1.3 -2.1x + 1.3$
 $\frac{2.5x}{2.5} = \frac{7.2}{2.5}$
 $x = 2.88$

C. $0.8x - 1.2 = 2.6 + 3.4x$
 $-3.4x + 1.2 + 1.2 - 3.4x$
 $\frac{-2.6x}{-2.6} = \frac{3.8}{-2.6}$
 $x = -1.461538\dots$
 $= 1.46$

D. $0.7 + 1.3x = 2.8x - 3.5$
 $-0.7 - 2.8 - 2.8x - 0.7$
 $\frac{-1.5x}{-1.5} = \frac{-4.2}{-1.5}$
 $x = 2.8$

E. $1.5(2x + 0.3) = 2.1(0.8x - 1.4)$
 $3x + 0.45 = 1.68x - 2.94$
 $-1.68x - 0.45 - 1.68x - 0.45$
 $\frac{1.32x}{1.32} = \frac{-3.39}{1.32}$
 $x = 2.568181\dots$
 $= 2.57$

F. $\left(\frac{1}{3}x + \frac{2}{9}\right) = \left(\frac{2}{3}x + \frac{1}{9}\right)$ $CM=9$
 $3x + 2 = 6x + 1$
 $-6x - 2 - 6x - 2$
 $\frac{-3x}{-3} = \frac{-1}{-3}$
 $x = \frac{1}{3}$

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G. $2.2x - 0.5 = 1.4x + 3.1$
 $-1.4x + 0.5 -1.4x + 0.5$
 $\frac{0.8x}{0.8} = \frac{3.6}{0.8}$
 $x = 4.5$

H. $1.2(5x - 0.7) = 2.5(2x + 1.5)$
 $6x - 0.84 = 5x + 3.75$
 $-5x + 1.84 -5x + 1.84$
 $x = 4.59$

J. $\left(\frac{3}{4}x\right) - \left(\frac{1}{2}\right) = \left(\frac{1}{4}x\right) + \left(\frac{1}{8}\right)$ $CM = 8$
 $6x - 4 = 2x + 1$
 $-2x + 4 -2x + 4$
 $\frac{4x}{4} = \frac{5}{4}$
 $x = \frac{5}{4}$

K. $-1.6 + 1.2x = 0.7x + 4.2$
 $+1.6 -0.7x -0.7x + 1.6$
 $\frac{0.5x}{0.5} = \frac{5.8}{0.5}$
 $x = 11.6$

L. $0.6x + 1.2 = -3.1 + 2.3x$
 $-2.3x - 1.2 -1.2 -2.3x$
 $\frac{1.7x}{1.7} = \frac{-4.3}{1.7}$
 $x = -2.52941$
 $= -2.53$

M. $0.8(-1.5 + 4x) = 1.2(0.5 + 2x)$
 $-1.2 + 3.2x = 0.6 + 2.4x$
 $+1.2 -2.4x +1.2 -2.4x$
 $\frac{0.8x}{0.8} = \frac{1.8}{0.8}$
 $x = 2.25$