

Solving for x: Lesson 07

Equations with Variables on Both Sides: Notes

Name: _____

MATH ALL

Solve two ways: _____

$$\begin{array}{r}
 5a - 6 = 3a + 12 \\
 \underline{-3a \quad -3a} \\
 2a - 6 = 12 \\
 \underline{+6 \quad +6} \\
 2a = 18 \\
 \underline{\quad \quad \quad 2 \quad \quad \quad 2} \\
 a = 9
 \end{array}$$

$$\begin{array}{r}
 5a - 6 = 3a + 12 \\
 \underline{-5a \quad -5a} \\
 -6 = -2a + 12 \\
 \underline{-12 \quad -12} \\
 -18 = -2a \\
 \underline{-2 \quad -2} \\
 a = 9
 \end{array}$$

1. Decide which variable term to move. + or - to move it!
2. Solve your 2 step equation.

$$\begin{array}{r}
 -7x - 30 = -3x + 2 \\
 \underline{+7x \quad +7x} \\
 -30 = 4x + 2 \\
 \underline{-2 \quad -2} \\
 -32 = 4x \\
 \underline{\quad \quad \quad 4 \quad \quad \quad 4} \\
 x = -8
 \end{array}$$

$$\begin{array}{r}
 1.04y - 17 = 3.7y - 6.36 \\
 \underline{-1.04y \quad -1.04y} \\
 -17 = 2.66y - 6.36 \\
 \underline{+6.36 \quad +6.36} \\
 -10.64 = 2.66y \\
 \underline{\quad \quad \quad 2.66 \quad \quad \quad 2.66} \\
 y = -4
 \end{array}$$

$$\begin{array}{r}
 \frac{12}{15} = \frac{4}{5}d - \frac{7}{10} = -\frac{7}{15}d + 2 \\
 \underline{+\frac{7}{15}d \quad +\frac{7}{15}d} \\
 \frac{19}{15}d - \frac{7}{10} = 2 = \frac{20}{10} \\
 \underline{+\frac{7}{10} \quad +\frac{7}{10}} \\
 \frac{15 \cdot 19}{19 \cdot 15}d = \frac{27}{10} \cdot \frac{15}{19} \cdot 3
 \end{array}$$

$$d = \frac{81}{38}$$