

## Complex Proportion Equations Bonus

Solve each Complex Proportion for 'x.' Answer to the nearest hundredth.

1) EXAMPLE:  $\frac{3x - 6.81}{5.5x - 23.28} = \frac{19.43}{106.82}$

I cross-multiply the top-left and, the bottom-right,  
then I cross-multiply the top-right and the bottom-left.

$$320.46x - 727.44 = 106.87x - 462.82$$

The two cross-multiplies make one equation.

$$\begin{array}{r} -106.87x \qquad -106.87x \\ 213.59x - 727.44 = -462.82 \end{array}$$

I subtract off 106.87x from both sides.

$$\begin{array}{r} +727.44 \qquad +727.44 \\ 213.59x = 264.62 \end{array}$$

I add 727.44 to both sides.

$$213.59x = 264.62$$

I divide both sides by 213.59.

$$\begin{array}{r} /213.59 \qquad /213.59 \\ x = 1.24 \end{array}$$

$$x = 1.24$$

Solve each proportion.

2)  $\frac{5.9}{6.2} = \frac{x + 4.3}{3x - 7}$

3)  $\frac{4x + 5.7}{x - 16} = \frac{47.5}{8}$

4)  $\frac{24.1}{x - 8.5} = \frac{58.3}{x - 4.5}$

5)  $\frac{6x + 5.6}{28.3} = \frac{4x - 10.2}{16.27}$

6)  $\frac{3x - 8}{38.16} = \frac{7x + 4.14}{10.25}$

7)  $\frac{9x - 6}{8x - 5} = \frac{71.48}{47.96}$

8)  $\frac{2x - 1.4}{3x - 2.6} = \frac{7.8}{21.8}$

9)  $\frac{23}{2x + 5.6} = \frac{44}{5x + 9.1}$

10)  $\frac{2x - 13.4}{3x + 6.85} = \frac{13.45}{39.56}$

11)  $\frac{3.4x - 15.8}{8.2x + 63.4} = \frac{109}{193}$