Quiz #1

Solve this equation. Show your work! Put a box around your answer.

\[ 5x + 8 = 23 \]
\[ \begin{align*}
5x & = 15 \\
\frac{5x}{5} & = \frac{15}{5} \\
\hline
x & = 3
\end{align*} \]
Leftovers from 2.2:

If there are parentheses, distribute first.

\[ 5(w - 7) = 3(w - 2) + 2w \]
\[ 5w - 35 = 3w - 6 + 2w \]
\[ 5w - 35 = 5w - 6 \]
\[ -35 = -6 \]
This means that the equation is impossible to solve.
No Solution

Useful Tricks

\[ -\frac{5}{6} + x = -\frac{1}{2} - \frac{2}{3} \]
Multiply through by 6
\[ -5 + 6x = -3 - 4 \]
\[ -5 + 6x = -7 \]
\[ 6x = -2 \]
\[ x = -\frac{1}{3} \]

\[ 3(k + 2) + k = 2(3 + 2k) \]
\[ 3k + 6 + k = 6 + 4k \]
\[ 4k + 6 = 6 + 4k \]
\[ 6 = 6 \]
This means it will always come out equal, no matter what k is.
All Real Numbers or: \( \text{IR} \)

0.91 - 0.2c = 1.23 - 0.6c
Multiply through by 100
\[ 91 - 20c = 123 - 60c \]
\[ +60c \quad +60c \]
\[ 91 + 40c = 123 \]
\[ -91 \]
\[ 40c = 32 \]
\[ \frac{40}{40} \]
\[ c = \frac{4}{5} \]
\[ c = .8 \]
"Solve for..."

\[ D = RT \]
\[ \frac{D}{R} = T \]

D = \frac{7}{7}
Solve for T
\[ \frac{50}{7} = \frac{7}{7} \]

P = 2L + 2W
Solve for W
\[ \frac{P-2L}{2} = \frac{2W}{2} \]
\[ \frac{P-2L}{2} = W \]

3x + 2y = 12
Solve for y
\[ \begin{align*}
-3x & : -3x \\
\frac{2y}{2} & = \frac{12 - 3x}{2} \\
y & = \frac{12 - 3x}{2} \\
y & = 6 - \frac{3}{2}x
\end{align*} \]

Challenge!
ac = bc + d
Solve for c
\[ \begin{align*}
bc & : -bc \\
ac - bc & = d \\
\frac{(a-b)c}{a-b} & = d \\
c & = \frac{d}{a-b}
\end{align*} \]