

Solving Equations Answer Document

Partner B: Key

| Solve the Equation | Check Your Answer | Solution |
|---|--|----------|
| $2 \cdot \frac{x}{2} = 6 \cdot 2$ $x = 12$ | $\frac{12}{2} = 6$ $6 = 6 \checkmark$ | $x = 12$ |
| $\begin{array}{r} -x + 7 = -3 \\ -7 \quad -7 \\ \hline -x = -10 \\ -1 \quad -1 \\ \hline x = 10 \end{array}$ | $\begin{array}{l} -(10) + 7 = -3 \\ -3 = -3 \checkmark \end{array}$ | $x = 10$ |
| $\begin{array}{r} 16 = 2 - 4x - 14 \\ 16 = -12 - 4x \\ +12 \quad +12 \\ \hline 28 = -4x \\ -4 \quad -4 \\ \hline -7 = x \end{array}$ | $\begin{array}{l} 16 = 2 - 4(-7) - 14 \\ 16 = 2 + 28 - 14 \\ 16 = 16 \checkmark \end{array}$ | $x = -7$ |
| $\begin{array}{r} 8(5 + 2x) = 120 \\ 40 + 16x = 120 \\ -40 \quad -40 \\ \hline 16x = 80 \\ \frac{16x}{16} = \frac{80}{16} \\ x = 5 \end{array}$ | $\begin{array}{l} 8(5 + 2(5)) = 120 \\ 8(5 + 10) = 120 \\ 8(15) = 120 \\ 120 = 120 \checkmark \end{array}$ | $x = 5$ |
| $\begin{array}{r} -7(x + 8) = -112 \\ -7x - 56 = -112 \\ +56 \quad +56 \\ \hline -7x = -56 \\ \frac{-7x}{-7} = \frac{-56}{-7} \\ x = 8 \end{array}$ | $\begin{array}{l} -7(8 + 8) = -112 \\ -7(16) = -112 \\ -112 = -112 \end{array}$ | $x = 8$ |

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| $161 = 6(4x + 3) - 1$ $161 = 24x + 18 - 1$ $161 = 24x + 17$ $\begin{array}{r} -17 \\ -17 \end{array}$ <hr/> $\frac{144}{24} = \frac{24x}{24}$ $6 = x$ | $161 = 6(4(6) + 3) - 1$ $161 = 6(24 + 3) - 1$ $161 = 6(27) - 1$ $161 = 162 - 1$ $161 = 161 \checkmark$ | $x = 6$ |
| $x - 6 = -6(7x + 1)$ $x - 6 = -42x - 6$ $\begin{array}{r} -x \\ -x \end{array}$ <hr/> $\begin{array}{r} -6 = -43x - 6 \\ +6 \qquad \qquad +6 \end{array}$ <hr/> $\frac{0}{-43} = \frac{-43x}{-43} \quad 0 = x$ | $0 - 6 = -6(7(0) + 1)$ $0 - 6 = -6(0 + 1)$ $0 - 6 = -6(1)$ $0 - 6 = -6$ $-6 = -6 \checkmark$ | $x = 0$ |
| $2 - 5(5x + 6) = 172$ $2 - 25x - 30 = 172$ $-25x - 28 = 172$ $\begin{array}{r} +28 \quad +28 \\ -25x = 200 \\ \frac{-25}{-25} \quad \frac{-25}{-25} \end{array}$ $x = -8$ | $2 - 5(5(-8) + 6) = 172$ $2 - 5(-40 + 6) = 172$ $2 - 5(-34) = 172$ $2 + 170 = 172$ $172 = 172 \checkmark$ | $x = -8$ |
| $3 \cdot \frac{x + 14}{3} = 5 \cdot 3$ $\begin{array}{r} x + 14 = 15 \\ -14 \quad -14 \end{array}$ $x = 1$ | $\frac{1 + 14}{3} = 5$ $\frac{15}{3} = 5$ $5 = 5 \checkmark$ | $x = 1$ |
| $\frac{x - 14}{2} + 3 = -2$ $\begin{array}{r} -3 \quad -3 \end{array}$ <hr/> $2 \cdot \frac{x - 14}{2} = -5 \cdot 2$ $\begin{array}{r} x - 14 = -10 \\ +14 \quad +14 \end{array}$ $x = 4$ | $\frac{4 - 14}{2} + 3 = -2$ $\frac{-10}{2} + 3 = -2$ $-5 + 3 = -2$ $-2 = -2 \checkmark$ | $x = 4$ |