

## ANSWER KEY SECTION 2.2

1) To solve the equation  $2x - 8 = 41$ , the first step is to add 8 to both sides of the equation.

2) To solve the equation  $3 - 2(7x + 1) + 8x = 12$ , first use the Distributive Property to remove the parenthesis.

3) To solve the equation  $3x = -x - 19$ , the first step is to add x to each side of the equation.

4) False ( $3(4x)$  is multiplication, not distribution)

5) True

6) False (as you should always check your work)

$$47) -5x + 11 = 1$$

$$\begin{array}{r} -11 \quad -11 \\ \hline -5x = -10 \\ -5 \quad -5 \\ \hline x = 2 \end{array}$$

$$\text{ck } -5(2) + 11 = 1$$

$$\begin{array}{r} -10 + 11 = 1 \\ 1 = 1 \end{array}$$

$$48) -6n + 14 = -10$$

$$\begin{array}{r} -14 \quad -14 \\ \hline -6n = -24 \\ -6 \quad -6 \\ \hline n = 4 \end{array}$$

$$\text{ck.}$$

$$-6(4) + 14 = -10$$

$$-24 + 14 = -10$$

$$-10 = -10$$

$$51) -2(3n - 2) = 2$$

$$\begin{array}{r} -6n + 4 = 2 \\ -4 \quad -4 \\ \hline -6n = -2 \\ -6 \quad -6 \\ \hline n = \frac{1}{3} \end{array}$$

$$52) -5(2n - 3) = 10$$

$$\begin{array}{r} -10n + 15 = 10 \\ -15 \quad -15 \\ \hline -10n = -5 \\ -10 \quad -10 \\ \hline n = \frac{1}{2} \end{array}$$

$$\text{ck } -5\left(2\left(\frac{1}{2}\right) - 3\right) = 10$$

$$-5(1 - 3) = 10$$

$$-5(-2) = 10$$

$$10 = 10 \checkmark$$

$$\text{ck } -2\left(3\left(\frac{1}{3}\right) - 2\right) = 2$$

$$-2(1 - 2) = 2$$

$$-2(-1) = 2$$

$$2 = 2 \checkmark$$

d.2. CONT.

$$53) \frac{1}{4} = \frac{3}{8} - 2x$$

$$\frac{-\frac{3}{8}}{-\frac{3}{8}} \quad \frac{-\frac{1}{4}}{-\frac{3}{8}}$$

$$\left(\frac{2}{2}\right) \frac{1}{4} = \frac{3}{8} - 2x$$

$$\frac{2}{8} - \frac{3}{8} = -2x$$

$$\left(\frac{-1}{2}\right) \frac{-1}{8} = -2x \left(\frac{-1}{2}\right)$$

$$\boxed{\frac{1}{16} = x}$$

ck  $\frac{1}{4} = \frac{3}{8} - 2\left(\frac{1}{16}\right)$

$$\frac{1}{4} = \frac{3}{8} - \frac{1}{8}$$

$$\frac{1}{4} = \frac{2}{8} \quad \checkmark$$

$$56) 7a - 26 = 13a + 2$$

$$\quad \quad \quad +26 \quad \quad \quad +26$$

$$7a = 13a + 28$$

$$\frac{-13a}{-13a} \quad \frac{-13a}{-13a}$$

$$\frac{-6a}{-6} = \frac{28}{-6}$$

$$\frac{-6}{-6} = \frac{-14}{3}$$

$$\boxed{a = \frac{-14}{3}}$$

ck  $7\left(\frac{-14}{3}\right) - 26 = 13\left(\frac{-14}{3}\right) + 2$

$$\frac{14}{93}$$

$$\frac{-98}{3} - 26 = \frac{-182}{3} + 2$$

$$\frac{-98}{3} + \frac{182}{3} = \frac{-26}{3} + 2$$

$$\frac{13}{182}$$

$$\frac{-26}{3} = 28$$

$$\begin{array}{r} 28 \\ 3 \overline{)184} \\ \underline{6} \\ 24 \end{array}$$

$$\begin{array}{r} 182 \\ +98 \\ \hline 280 \end{array}$$

$$\begin{array}{r} 182 \\ -98 \\ \hline 84 \end{array}$$

$$28 = 28 \quad \checkmark$$

$$61) 8[4 - 6(x-1)] + 5[(2x+3)-5] = 18x - 338$$

$$8[4 - 6x + 6] + 5[2x + 3 - 5] = 18x - 338$$

$$8[10 - 6x] + 5[2x - 2] = 18x - 338$$

$$80 - 48x + 10x - 10 = 18x - 338$$

$$70 - 38x = 18x - 338$$

$$\quad \quad \quad + 38x \quad \quad \quad + 38x$$

$$70 = 56x - 338$$

$$\quad \quad \quad + 338 \quad \quad \quad + 338$$

$$\frac{408}{56} = \frac{56x}{56}$$

$$\boxed{\frac{51}{7} = x}$$

ck

$$8\left[4 - 6\left(\frac{51}{7} - 1\right)\right] + 5\left[2\left(\frac{51}{7}\right) + 3 - 5\right] = 18\left(\frac{51}{7}\right) - 338$$

$$8\left[4 - 6\left(\frac{44}{7}\right)\right] + 5\left[\frac{102}{7} + 3 - 5\right] = \frac{918}{7} - 338$$

$$8\left[4 - \frac{264}{7}\right] + 5\left[\frac{102}{7} - 2\right] = \frac{-1448}{7}$$

$$8\left[\frac{-236}{7}\right] + 5\left[\frac{88}{7}\right] = \frac{-1448}{7}$$

$$\frac{-1888}{7} + \frac{440}{7} = \frac{-1448}{7}$$

$$\frac{-1448}{7} = \frac{-1448}{7} \quad \checkmark$$

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