

Unit 2 Review Solutions

$$\begin{aligned} 1) \quad & 4 - 3(5n - 6) = 97 \\ & 4 - 15n + 18 = 97 \\ & 22 - 15n = 97 \\ & -22 \qquad -22 \\ & \underline{-15n = 75} \\ & \underline{-15 \quad -15} \\ & \quad \quad \quad n = -5 \end{aligned}$$

$$\begin{aligned} 2) \quad & 1 + 3v + 5v = 17 \\ & 1 + 8v = 17 \\ & -1 \qquad -1 \\ & \underline{8v = 16} \\ & \underline{8 \quad 8} \\ & \quad \quad \quad v = 2 \end{aligned}$$

$$\begin{aligned} 3) \quad & 7(7 - 4n) = 22 - n \\ & 49 - 28n = 22 - n \\ & \qquad +28n \qquad +28n \\ & 49 = 22 + 27n \\ & -22 \quad -22 \\ & \underline{27 = 27n} \\ & \underline{27 \quad 27} \\ & \quad \quad \quad 1 = n \end{aligned}$$

$$\begin{aligned} 4) \quad & 5(7n + 4) = 5(8 + 7n) \\ & 35n + 20 = 40 + 35n \\ & -35n \qquad -35n \\ & \quad \quad \quad 20 = 40 \\ & \quad \quad \quad \text{No Solution} \end{aligned}$$

$$\begin{aligned} 5) \quad & 2(r - 5) = 2r - 2(1 - 4r) \\ & 2r - 10 = 2r - 2 + 8r \\ & 2r - 10 = 10r - 2 \\ & -2r \qquad -7r \\ & -10 = 8r - 2 \\ & +2 \qquad +2 \\ & \underline{-8 = 8r} \rightarrow r = -1 \end{aligned}$$

$$\begin{aligned} 6) \quad & 8 + \frac{x}{4} = 6 \\ & -8 \qquad -8 \\ & 4 \cdot \left(\frac{x}{4} = -2 \right) \cdot 4 \\ & \quad \quad \quad x = -8 \end{aligned}$$

$$\rightarrow) \frac{r}{3} + 1 = -5$$

-1 -1

$$3 \cdot \left(\frac{r}{3} = -6 \right) - 3$$

$$r = -18$$

$$9) 10 \cdot \left(1 = \frac{5+x}{10} \right) - 10$$

$$10 = 5 + x$$

-5 -5

$$5 = x$$

$$11) \frac{9}{3} = \frac{n}{4}$$

$$\frac{36}{3} = \frac{3n}{3}$$

$$12 = n$$

$$13) \frac{n-2}{9} = \frac{n-6}{8}$$
$$8(n-2) = 9(n-6)$$

$$8n - 16 = 9n - 54$$

-8n -8n

$$-16 = n - 54$$

+54 +54

$$38 = n$$

$$8) 9 \cdot \left(\frac{6+n}{9} = -1 \right) - 9$$

$$6+n = -9$$

-6 -6

$$n = -15$$

$$10) \frac{90}{k} = \frac{4}{10}$$

$$\frac{90}{4} = \frac{4k}{4}$$

$$22.5 = k$$

$$12) \frac{n-5}{n} = \frac{6}{10}$$

$$10(n-5) = 6n$$

$$10n - 50 = 6n$$

-10n -10n

$$-50 = -4n$$

-4 -4

$$12.5 = n$$

$$14) x = \text{miles}$$
$$2.10x + 5 = 49.10$$

-5 -5

$$\frac{2.10x}{2.10} = \frac{44.10}{2.10}$$

$$x = 21$$