

Pg 106 22, 24, 34-40 even. 41, 45, 46

22. $8 - (3 + b) = b - 9$

$8 - 3 - b = b - 9$

$5 - b = b - 9$

$\begin{array}{r} -5 \\ \hline -b = b - 14 \end{array}$

$\begin{array}{r} -b \\ -b \\ \hline -2b = -14 \end{array}$

$\begin{array}{r} -2 \\ -2 \\ \hline b = 7 \end{array}$

$\sqrt{8 - (3 + 7)} = 7 - 9$

$8 - 10 = 7 - 9$

$\sqrt{-2} = -2$

24. $(g + 4) - 3g = 1 + g$

$\begin{array}{r} 2g + 4 = 1 + g \\ -g \\ \hline -3g + 4 = 1 \end{array}$

$\begin{array}{r} -3g + 4 = 1 \\ -4 \\ \hline -3g = -3 \end{array}$

$\begin{array}{r} -3g = -3 \\ -3 \\ \hline g = 1 \end{array}$

$\sqrt{(1 + 4) - 3(1)} = 1 + 1$

$5 - 3 = 2$

$\sqrt{2} = 2$

34. $3d + 4 = 2 + 3d - \frac{1}{2}$

$3d + 4 = 1.5 + 3d$

$\begin{array}{r} -3d \\ \hline 4 = 1.5 \end{array}$

$4 \neq 1.5$

\therefore no solution because 4 can never = 1.5

36. $3a + 1 = -3.6(a - 1)$

$3a + 1 = -3.6a + 3.6$

$\begin{array}{r} -1 \\ \hline 3a = -3.6a + 2.6 \end{array}$

$\begin{array}{r} +3.6a \\ +3.6a \\ \hline 6.6a = 2.6 \end{array}$

$6.6a = 2.6$

$6.6a = 2.6$

$a = \frac{2.6}{6.6}$

$a = .39 \text{ or } \frac{13}{33}$

38. $.5b + 4 = 2(b + 2)$

$.5b + 4 = 2b + 4$

$\begin{array}{r} -4 \\ -4 \\ \hline .5b = 2b \end{array}$

$.5b = 2b$

$\begin{array}{r} -2b \\ -2b \\ \hline -1.5b = 0 \end{array}$

$-1.5b = 0$

$\begin{array}{r} -1.5 \\ -1.5 \\ \hline b = 0 \end{array}$

40. $3(m + 1.5) = 1.5(2m + 3)$

$3m + 4.5 = 3m + 4.5$

IDENTITY

All REAL NUMBER

INFINITE SOLUTIONS

41. $t = \frac{d}{60}$ because

$d = rt$

distance rate time

$\frac{d}{r} = \frac{rt}{r}$

$\frac{d}{r} = t$

$\frac{d}{60} = t$

\uparrow way there

b. return trip w/ 40 m/hr.

$$\frac{d}{r} = \frac{d}{r}$$

$$\frac{d}{40} = t$$

$$c. \frac{d}{60} + 1 = \frac{d}{40}$$

going home
+1)

because 1 hour longer

$$2d + 120 = 3d$$

$$\frac{2d + 120}{2d} = \frac{3d}{2d}$$

$$120 = d$$

3h going there
2h way back

$$\frac{120 + 120}{5} = \text{total distance} / \text{total time}$$

$$\frac{240}{5} = 48 \text{ mi/hr}$$

m = # months

$$45. \text{ HC1} = 50 + 65m$$

$$\text{HC2} = 90 + 45m$$

$$50 + 65m = 90 + 45m$$

$$-45m \quad -45m$$

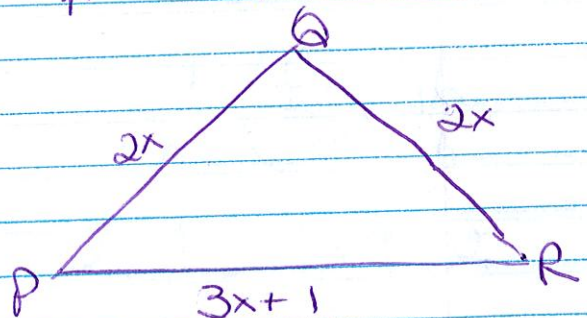
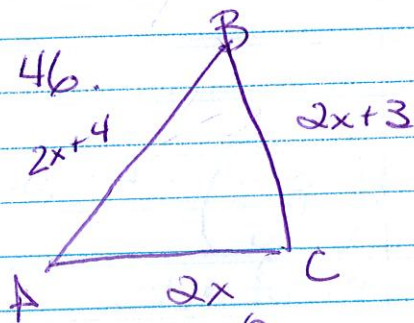
$$50 + 20m = 90$$

$$-50 \quad -50$$

$$20m = 40$$

$$\frac{20m}{20} = \frac{40}{20}$$

$$m = 2$$



$$2x + 4 + 2x + 3 + 2x = 2x + 2x + 3x + 1$$

$$6x + 7 = 7x + 1$$

$$-6x \quad -6x$$

$$7 = x + 1$$

$$-1 \quad -1$$

$$6 = x$$

$$\therefore AB = 2(6) + 4 = 16$$

$$BC = 2(6) + 3 = 15$$

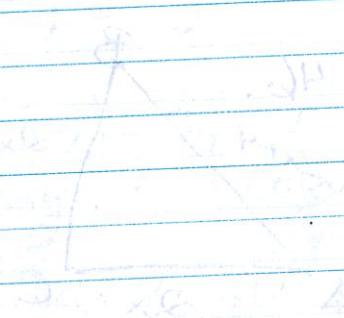
$$AC = 2(6) = 12$$

$$PQ = 2x = 2(6) = 12$$

$$QR = 2x = 2(6) = 12$$

$$PR = 3x + 1 = 3(6) + 1$$

$$PR = 19$$



$(x+1) + (x+1) + x = 180$
 $2x + 2 + x = 180$
 $3x + 2 = 180$
 $3x = 178$
 $x = 59.33$

$$bc = 25 + 25 + 25$$

$$bc = 75$$

The total cost is
 $3 \times 25 = 75$