

BookLinear Equations w/one variable

$$ax + b = c$$

where  $a, b$  &  $c$  are real #s.

$$ax = b \quad \text{for } x$$

$$x = \frac{b}{a} \quad a \neq 0$$

$$ax + b = c$$

$$\quad -b \quad -b$$

$$\frac{ax}{a} = \frac{c-b}{a}$$

$$x = \frac{c-b}{a}$$

$$61) \quad \begin{array}{r} -2p + 10 = 34 \\ -10 \quad -10 \end{array}$$

$$\begin{array}{r} -2p \quad = \quad 24 \\ \hline -2 \quad \quad -2 \end{array}$$

$$p = -12$$

$$11) \quad \begin{array}{r} 3m - 2 = 16 \\ +2 \quad +2 \end{array}$$

$$\begin{array}{r} 3m \quad = \quad 18 \\ \hline 3 \quad \quad 3 \end{array}$$

$$m = 6$$

$$\begin{array}{l} -2(-12) + 10 = 34 \\ 24 + 10 = 34 \\ 34 = 34 \quad \checkmark \end{array}$$

$$15) \quad 1 = -4z + 21$$

$$\quad -21 \quad \quad -21$$

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$$\frac{-20}{-4} = \frac{-4z}{-4}$$

$$5 = z$$

$$19) \quad \frac{b}{3} - 12 = -9$$
$$\quad +12 \quad +12$$

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$$\frac{b}{3} = 3$$

$$3\left(\frac{b}{3}\right) = 3(3)$$

$$b = 9$$

$$21) \quad -9 = \frac{w}{2} - 3$$
$$\quad +3 \quad +3$$

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$$\frac{-6}{1} = \frac{w}{2}$$

$$w = -12$$

$$26) \quad -p + 8 = 20$$
$$\quad -8 \quad -8$$

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$$\frac{-p}{-1} = \frac{12}{-1}$$

$$p = -12$$

$$3b - 12 = -9$$
$$\quad +12 \quad +12$$

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$$\frac{3b}{3} = \frac{3}{3}$$

$$b = 1$$

$$24) \quad \frac{c}{-4} - 3 = 5$$
$$\quad +3 \quad +3$$

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

$$c = -32$$

$$27) \quad 8 + 4b = 2 + 2b$$
$$\quad -2b \quad -2b$$

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$$8 + 2b = 2$$
$$\quad -8 \quad -8$$

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$$\frac{2b}{2} = \frac{-6}{2}$$

$$b = -3$$

$$36) 4b + 2b - 7 = 2 + 4b + 5$$

$$4b + 2b - 4b = 2 + 5 + 7$$

$$\frac{2b}{2} = \frac{14}{2}$$

$$b = 7$$

$$38) -12 + 5m + 10 = -2m - 10 - m$$

$$5m + 2m + m = -10 + 12 - 10$$

$$\frac{8m}{8} = \frac{-8}{8}$$

$$m = -1$$

$$40) 6(w + 2) = 20 + 2w$$

$$6w + 12 = 20 + 2w$$

$$6w - 2w = 20 - 12$$

$$\frac{4w}{4} = \frac{8}{4}$$

$$w = 2$$

$$43) 3n - 4(n - 1) = 6$$

$$3n - 4n + 4 = 6$$

$$3n - 4n = 6 - 4$$

$$\frac{-n}{-1} = \frac{2}{-1}$$

$$n = -2$$

$$46) -3x + x - 8 = -2(6 - x)$$

$$-3x + x - 8 = -12 + 2x$$

$$-3x + x - 2x = -12 + 8$$

$$-4x = -4$$

$$\frac{-4x}{-4} = \frac{-4}{-4}$$

$$x = 1$$

$$56) 2(2v + 3) + 8v = 6(v - 1) + 3v$$

$$4v + 6 + 8v = 6v - 6 + 3v$$

$$4v + 8v - 6v - 3v = -6 - 6$$

$$3v = -12$$

$$\frac{3v}{3} = \frac{-12}{3}$$

$$v = -4$$