

Name: _____

Date: _____

1.09 Integrated Algebra
More with Variables on Both Sides

Solve for the variable. Check your work on your calculator!

1. $5x+3+2x=40-x-5$

$$\begin{array}{r} 7x+3=35-x \\ +x \qquad \qquad +x \end{array}$$

$$\begin{array}{r} 8x+3=35 \\ -3 \quad -3 \end{array}$$

$$\begin{array}{r} 8x=32 \\ \hline 8 \quad 8 \end{array}$$

$$x=4$$

2. $4(3y-9)+y=-y+2+4$

$$12y-36+y=-y+2+4$$

$$13y-36=-y+6$$

$$\begin{array}{r} +y \qquad \qquad +y \end{array}$$

$$\begin{array}{r} 14y-36=6 \\ +36 \quad +36 \end{array}$$

$$\begin{array}{r} 14y=42 \\ \hline 14 \quad 14 \end{array}$$

$$y=3$$

3. $20-(3-6p)=42+20+p$

$$20-3+6p=42+20+p$$

$$\begin{array}{r} 17+6p=62+p \\ -p \qquad \qquad -p \end{array}$$

$$\begin{array}{r} 17+5p=62 \\ -17 \qquad \qquad -17 \end{array}$$

$$\begin{array}{r} 5p=45 \\ \hline 5 \quad 5 \end{array}$$

$$p=9$$

4. $3c-8c-9=7+12+2c$

$$\begin{array}{r} -5c-9=19+2c \\ +5c \qquad \qquad +5c \end{array}$$

$$\begin{array}{r} -9=19+2c \\ -19 \quad -19 \end{array}$$

$$\begin{array}{r} -28=2c \\ \hline 7 \quad 7 \end{array}$$

$$-4=c$$

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$$5. \quad 2 - (x+2) = 12 - (7-4x)$$

$$2 - x - 2 = 12 - 7 + 4x$$

$$\begin{array}{r} -x = 5 + 4x \\ -4x \quad \quad -4x \end{array}$$

$$\begin{array}{r} -5x = 5 \\ \frac{-5x}{-5} = \frac{5}{-5} \end{array}$$

$$x = -1$$

$$6. \quad 8 - (3-2m) = 9 + 3(m+1)$$

$$8 - 3 + 2m = 9 + 3m + 3$$

$$\begin{array}{r} 5 + 2m = 12 + 3m \\ -2m \quad \quad -2m \end{array}$$

$$\begin{array}{r} 5 = 12 + 1m \\ -12 \quad -12 \end{array}$$

$$-7 = m$$