

Some quick notes:

# Solving Equations 6 (II)

Name: \_\_\_\_\_

Key

Variable on both sides

$$1) \quad 14 - 6x = 8x - 14$$

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

$$\frac{28}{14} = \frac{14x}{14}$$

$$x = 2$$

$$5) \quad 2x + 84 = 20x - 60$$

$$\begin{array}{r} -2x \quad \quad -2x \\ 84 = 18x - 60 \\ +60 \quad \quad +60 \end{array}$$

$$\frac{144}{18} = \frac{18x}{18}$$

$$x = 8$$

$$2) \quad 2x - 4 = 20 - 6x$$

$$\begin{array}{r} +6x \quad \quad +6x \\ 8x - 4 = 20 \\ +4 \quad \quad +4 \end{array}$$

$$\frac{8x}{8} = \frac{24}{8}$$

$$x = 3$$

$$6) \quad 20x + 20 = 10x + 100$$

$$\begin{array}{r} -10x \quad \quad -10x \\ 10x + 20 = 100 \\ -20 \quad \quad -20 \end{array}$$

$$\frac{10x}{10} = \frac{80}{10}$$

$$x = 8$$

$$3) \quad 2x + 60 = 8x + 6$$

$$\begin{array}{r} -2x \quad \quad -2x \\ 60 = 6x + 6 \\ -6 \quad \quad -6 \end{array}$$

$$\frac{54}{6} = \frac{6x}{6}$$

$$x = 9$$

$$7) \quad 4x + 80 = 16x + 8$$

$$\begin{array}{r} -4x \quad \quad -4x \\ 80 = 12x + 8 \\ -8 \quad \quad -8 \end{array}$$

$$\frac{72}{12} = \frac{12x}{12}$$

$$x = 6$$

$$4) \quad -44 + 12x = 40 + 10x$$

$$\begin{array}{r} -10x \quad \quad -10x \\ -44 + 12x = 40 \\ +44 \quad \quad +44 \end{array}$$

$$\frac{2x}{2} = \frac{84}{2}$$

$$x = 42$$

$$8) \quad 12x - 20 = 64 - 2x$$

$$\begin{array}{r} +2x \quad \quad +2x \\ 14x - 20 = 64 \\ +20 \quad \quad +20 \end{array}$$

$$\frac{14x}{14} = \frac{84}{14}$$

$$x = 6$$

$$9) \quad -16x + 80 = 4x + 20$$

$$\quad \quad \quad +16x \quad \quad +16x$$

$$80 = 20x + 20$$

$$\quad \quad \quad -20 \quad \quad -20$$

$$60 = 20x$$

$$\quad \quad \quad \frac{60}{20} = \frac{20x}{20}$$

$$x = 3$$

$$10) \quad 12x - 8 = 40 - 4x$$

$$\quad \quad \quad +4x \quad \quad \quad +4x$$

$$16x + 8 = 40$$

$$\quad \quad \quad +8 \quad \quad \quad +8$$

$$16x = 48$$

$$\quad \quad \quad \frac{16x}{16} = \frac{48}{16}$$

$$x = 3$$

$$11) \quad 4c - 10 = 2c + 8$$

$$\quad \quad \quad -2c \quad \quad \quad -2c$$

$$2c + 10 = 8$$

$$\quad \quad \quad +10 \quad \quad \quad +10$$

$$2c = 18$$

$$\quad \quad \quad \frac{2c}{2} = \frac{18}{2}$$

$$c = 9$$

$$12) \quad 4x - 2 = 2x + 22$$

$$\quad \quad \quad -2x \quad \quad \quad -2x$$

$$2x + 2 = 22$$

$$\quad \quad \quad +2 \quad \quad \quad +2$$

$$2x = 24$$

$$\quad \quad \quad \frac{2x}{2} = \frac{24}{2}$$

$$x = 12$$

$$13) \quad 80 - 12x = 12x - 16$$

$$\quad \quad \quad +12x \quad \quad +12x$$

$$80 = 24x - 16$$

$$\quad \quad \quad +16 \quad \quad \quad +16$$

$$96 = 24x$$

$$\quad \quad \quad \frac{96}{24} = \frac{24x}{24}$$

$$x = 4$$

$$14) \quad 20x - 30 = -10x + 120$$

$$\quad \quad \quad +10x \quad \quad \quad +10x$$

$$30x - 30 = 120$$

$$\quad \quad \quad +30 \quad \quad \quad +30$$

$$30x = 150$$

$$\quad \quad \quad \frac{30x}{30} = \frac{150}{30}$$

$$x = 5$$

$$15) \quad 16r + 8 = 20 + 4r$$

$$\quad \quad \quad -4r \quad \quad \quad -4r$$

$$12r + 8 = 20$$

$$\quad \quad \quad -8 \quad \quad \quad -8$$

$$12r = 12$$

$$\quad \quad \quad \frac{12r}{12} = \frac{12}{12}$$

$$r = 1$$

$$16) \quad 14a - 34 = 8a + 2$$

$$\quad \quad \quad -8a \quad \quad \quad -8a$$

$$6a + 34 = 2$$

$$\quad \quad \quad +34 \quad \quad \quad +34$$

$$6a = 36$$

$$\quad \quad \quad \frac{6a}{6} = \frac{36}{6}$$

$$a = 6$$