

1.4 Solving Abs. Value Equations

pg 27. Ex #1: $8.4 - |2n + 5|$ if $n = -7.5$

$$8.4 - |2(-7.5) + 5|$$

$$8.4 - |-15 + 5|$$

$$8.4 - |-10|$$

$$8.4 - 10 = -1.6$$

Ex #3: $|3x - 2| + 9 = 1$

$$|3x - 2| = -7$$

$$3x - 2 = -7 \quad 3x - 2 = -7$$

No Soln.

Ex #4: $|x + 10| = 4x - 8$

$$x + 10 = 4x - 8 \quad x + 10 = -(4x - 8)$$

$$10 = 3x - 8 \quad x + 10 = -4x + 8$$

$$18 = 3x \quad 5x + 10 = 8$$

$$6 = x$$

$$x = \frac{2}{5}$$

1.5 Solving Inequalities

pg 34. Ex #1: $y - 6 < 3$

$$y < 9$$

Ex 1A: $5w + 3 > w + 9$

$$w > 6$$

Ex #2: $-4z \leq -29.4$

$$z \geq 7$$

Ex #3: $(b) - 4c \leq 5c + 58$

1.6 Solving Compound Inequal.

Ex #1: $8 < 3y - 7 \leq 23$

$$15 < 3y \leq 30$$

$$5 < y \leq 10$$

$$-24c \leq 5c + 58$$

$$-29c \leq 58$$

$$c \geq -2$$

Ex #2: $k + 6 < -4$ or $5k \geq 14$

$$k < -10 \quad k \geq 2\frac{2}{5}$$

Ex #4: $|6y - 5| \geq 13$

$$6y - 5 \geq 13 \quad 6y - 5 \leq -13$$

$$y \geq 3 \quad y \leq -1$$

Ex #3: $|x| \geq 3$

$$x < -3 \quad x > 3$$

1.4 Solving Abs. Value Equations

pg 27. Ex #1: $8.4 - |2n + 5|$ if $n = 7.5$

$$8.4 - |2(7.5) + 5|$$

$$8.4 - |-15 + 5|$$

$$8.4 - |-10|$$

$$8.4 - 10 = -1.6$$

Ex #3: $|3x - 2| + 8 = 1$

$$\begin{array}{r} |3x - 2| + 8 = 1 \\ -8 \quad -8 \\ \hline |3x - 2| = -7 \\ 3x - 2 = 7 \quad 3x - 2 = -7 \\ \hline \text{No Soln.} \end{array}$$

Ex #4: $|x + 10| = 4x - 8$

$$\begin{array}{l} x + 10 = 4x - 8 \quad x + 10 = -(4x - 8) \\ -x \quad -x \quad \quad \quad x + 10 = -4x + 8 \\ \hline 10 = 3x - 8 \quad \quad \quad 4x + 10 = -4x + 8 \\ +8 \quad \quad \quad +8 \\ \hline 18 = 3x \quad \quad \quad 8x = -2 \\ \frac{18}{3} = \frac{3x}{3} \quad \quad \quad \frac{8x}{8} = \frac{-2}{8} \\ 6 = x \quad \quad \quad x = -\frac{2}{8} \end{array}$$

1.5 Solving Inequalities

pg 34. Ex #1: $y - 6 < 3$

$$\begin{array}{r} y - 6 < 3 \\ +6 \quad +6 \\ \hline y < 9 \end{array}$$

Ex #2: $-4.2x \leq -29.4$

$$\begin{array}{r} -4.2x \leq -29.4 \\ \div -4.2 \quad \div -4.2 \\ \hline x \geq 7 \end{array}$$

EX 1A: $5w + 3 > 4w + 9$

$$\begin{array}{r} 5w + 3 > 4w + 9 \\ -4w \quad -4w \\ \hline w + 3 > 9 \\ -3 \quad -3 \\ \hline w > 6 \end{array}$$

Ex #3: $(b) - 4c \leq 5c + 58$

1.6 Solving Compound Inequal.

Ex #1: $8 < 3y - 7 \leq 23$

$$\begin{array}{r} 8 < 3y - 7 \leq 23 \\ +7 \quad +7 \quad +7 \\ \hline 15 < 3y \leq 30 \\ \div 3 \quad \div 3 \quad \div 3 \\ \hline 5 < y \leq 10 \end{array}$$

Ex #4: $|6y - 5| \geq 13$

$$\begin{array}{l} 6y - 5 \geq 13 \quad 6y - 5 \leq -13 \\ +5 \quad +5 \quad \quad \quad +5 \quad +5 \\ \hline 6y \geq 18 \quad 6y \leq -8 \\ \div 6 \quad \div 6 \quad \quad \quad \div 6 \quad \div 6 \\ \hline y \geq 3 \quad y \leq -\frac{4}{3} \end{array}$$

$$\begin{array}{r} -24c \leq 5c + 58 \\ -5c \quad -5c \\ \hline -29c \leq 58 \\ \div -29 \quad \div -29 \\ \hline c \geq -2 \end{array}$$

EX #2: $k + 6 < -4$ or $3k \geq 14$

$$\begin{array}{l} k + 6 < -4 \quad \text{or} \quad 3k \geq 14 \\ -6 \quad -6 \quad \quad \quad \div 3 \quad \div 3 \\ \hline k < -10 \quad \text{or} \quad k \geq \frac{14}{3} \end{array}$$

EX #3: $|x| < 3$

$$\begin{array}{l} |x| < 3 \quad \text{No Soln.} \\ x < 3 \quad x > -3 \\ \hline |x| > -4 \end{array}$$