Algebra Review

STUDY GUIDE

Study Guide – Order of Operations

- Problem #4: Simplify the Expression

$$24 \div (8 - 5 \cdot 2)$$

$$24 \div (8 - 10)$$

$$24 \div (-2)$$

$$-12$$

Study Guide – Order of Operations

- Problem #5: Simplify the Expression

$$2[6 \div 3 + (-1)^2]$$

$$2[2 + 1]$$

$$2[3]$$

$$6$$

Study Guide – Solving Equations

- Problem #10: Solve the Equation

$$-9(4x + 6) = 18$$

$$-36x - 54 = 18$$

$$-36x = 72$$

$$x = -2$$

Study Guide – Solving Equations

- Problem #14: Solve the Equation

$$-3\left(x - \frac{1}{3}\right) = -3$$

$$-3x + 1 = -3$$

$$-3x = -4$$

$$x = \frac{4}{3}$$

Study Guide – Solving Equations

- Problem #16: Solve the Equation

$$12x + 40 + 3x + 50 = 180$$

$$15x + 90 = 180$$

$$15x = 90$$

$$x = 6$$

Study Guide - Evaluate

- Problem #18: Evaluate the expression for the given value

$$-3(2x + 9)\ ; x = 2$$

$$-3(2(2) + 9)$$

$$-3(4 + 9)$$

$$-3(13)$$

$$-39$$

Study Guide – Factoring

- Problem #22: Factor the Polynomial

$$3x^2 - 10x - 8$$

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

$$3x(x - 4) + 2(x - 4)$$

$$(x - 4)(3x + 2)$$

$ac = -24$	$b = -10$
(1,-24)	-23
(2,-12)	-10

Study Guide – Solve by Factoring

- Problem #24: Solve the Equation by Factoring

$$5x^2 + 17x + 6 = 0$$

$$5x^2 + 15x + 2x + 6 = 0$$

$$5x(x + 3) + 2(x + 3) = 0$$

$$(x + 3)(5x + 2) = 0$$

$$x + 3 = 0 \qquad 5x + 2 = 0$$

$$x = -3 \qquad x = \frac{-2}{5}$$

$ac = 30$	$b = 17$
(1,30)	31
(2,15)	17