3-2 absolute algebra

- An **absolute value** is defined as the distance from 0. As a distance this value is always positive.

- Step 1: Isolate the absolute value expression.
- Step2: Set the quantity inside the absolute value notation equal to + and - the quantity on the other side of the equation.
- Step 3: Solve for the unknown in both equations.
- Step 4: Check your answer analytically or graphically

$$|x - 8| = 5$$

$$|x + 11| = 9$$

$$|x + 2| = -3$$

$$|5 + 7x| = 47$$

$$|-5x + 6| + 2 = 41$$

$$-6 - |2x + 7| = -25$$

- You are a quality control inspector at a bowling pin company. A regulation pin must weigh between 50 and 58 ounces, inclusive. Write an inequality describing the weights you should reject.