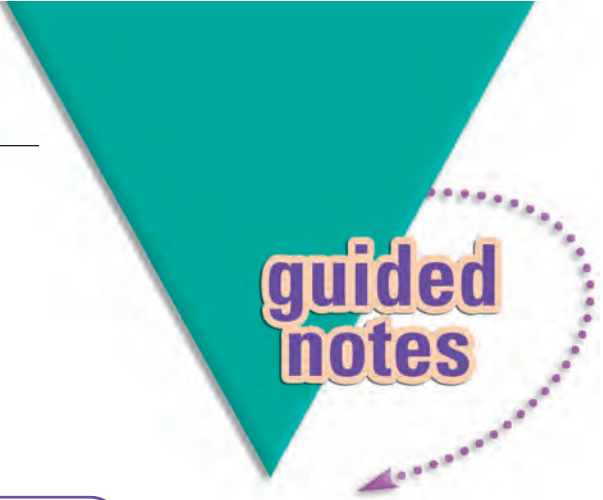


NAME _____

Module 6 Solving Absolute Value Equations and Inequalities

Lesson 5 Solving Problems Using Absolute Value Equations and Inequalities



guided notes

Lesson Objective

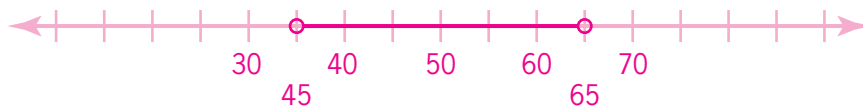
- Model scenarios using an absolute value equation or inequality, then solve.

- 1 The local meteorologist said that today's high temperature varied by less than 10°F from last year's high temperature for this date, 55°F . What was the range of today's possible high temperatures?

$$|t - 55| < 10$$

$$45 < t < 65$$

The range of possible high temperatures was between 45°F and 65°F .



- 2 A tire is to be inflated to a pressure of 36 pounds per square inch (psi). Any pressure varying more than 3 psi from the recommended pressure is considered dangerous. Find the maximum and minimum pressures the tire can have before it is considered dangerous.

$$|p - 36| = 3$$

$$p = 39 \text{ or } p = 33$$

maximum pressure 39 psi

minimum pressure 33 psi



- 3 The cooling tank of an industrial machine should contain 20.5 kL of water. When the amount of water varies by more than 0.3 kL from the ideal, an alarm sounds. For what amounts of water does an alarm sound?

$$|x - 20.5| > 0.3$$

$$x > 20.8 \text{ or } x < 20.2$$

The alarm will sound when the amount of water is greater than 20.8 kL or less than 20.2 kL.



