

Name _____ Date _____ Period _____

Formulating Absolute Value Linear Equations

Algebra II | Unit 2 | Day 4 | TEK A2.6.D

Objective: I can formulate (set up, without solving) an absolute value linear equation from a real-world description.

Vocabulary

Formulate: set up an equation from a description - _____.

Center value: the _____ the situation is measured against.

Margin: how far off from the center is _____.

KEY IDEA

Every situation today fits the same template:

$$|x - \text{center}| = \text{margin}$$

x is the true/measured value; center is the target; margin is the acceptable difference.

Let's Work Through It

Example 1 — Clarissa wants a house within 5 houses of house #1248 on an even-numbered street.

Center: _____ Margin: _____ Equation: _____

Example 2 — A surveying instrument measures a 10-mile stretch with a 1.5% margin of error.

Equation: _____

Example 3 — A retail company's AI demand-forecasting model is trusted as accurate only if its prediction is within 25 units of the actual demand of 400 units.

Center: _____ Margin: _____ Equation: _____

Example 4 — A recipe calls for 2 cups of flour, with acceptable measurement error of 0.25 cups.

Center: _____ Margin: _____ Equation: _____

Example 5 — A shipping company's box-weight target is 50 lb, with a tolerance of 3 lb.

Equation: _____

Your Turn

You Try 1 — A factory's bolt length must be within 0.02 cm of 6 cm.

Equation: _____

You Try 2 — A thermostat targets 70°F, with an acceptable range of 2°F above or below. Formulate an equation.

Center: _____ Margin: _____ Equation: _____