

Name _____ Date _____ Period _____

Formulating Absolute Value Linear Equations - Practice

Algebra II | Unit 2 | Lesson 4 Practice | TEK A2.6.D

Objective: I can identify the center and margin in a real-world description and formulate (set up, without solving) an absolute value equation.

Reminder: every question on this page asks you to SET UP an equation. Do not solve any of them - that is Lesson 6.

Section 1 — Recall

1. Write the template used for every problem in this lesson.

2. A bolt must be within 0.05 cm of 8 cm. Give the center and margin, then formulate.

Center: _____ Margin: _____ Equation: _____

3. A thermostat targets 68°F and allows 3°F above or below. Give the center and margin, then formulate.

Center: _____ Margin: _____ Equation: _____

4. A shipping box targets 40 lb with a tolerance of 2.5 lb. Formulate.

Section 2 — Apply

5. Clarissa wants a house within 6 houses of house #1320 on an even-numbered street. Formulate.

6. — A retail company's AI demand-forecasting model is trusted only if its prediction is within 30 units of the actual demand of 250 units. Formulate.

Center: _____ Margin: _____ Equation: _____

7. A recipe calls for 3 cups of sugar, with an acceptable measurement error of 0.125 cups. Formulate.

Section 3 — Challenge

8. A surveying instrument measures a 20-mile stretch with a 2% margin of error. Formulate. (Hint: the margin here is a PERCENT of the center, not a plain number.)

9. A student writes $|x + 15| = 2$ for "a value within 2 of 15." Identify the error and write the correct equation.

Error: _____

Correct equation: _____

Section 4 — Explain It

10. Explain why absolute value is the right tool for a "within a certain amount of a target" situation, instead of a plain subtraction like $x - \text{center} = \text{margin}$.
