

Unit 4 Lesson 13: Absolute Value Functions (Part 1)

1 How Good Were the Guesses? (Warm up)

Student Task Statement

Before this lesson, you were asked to guess the number of objects in the jar. The guesses of all students have been collected. Your teacher will share the data and reveal the actual number of objects in the jar.

Use that number to calculate the **absolute guessing error** of each guess, or how far the guess is from the actual number. Suppose the actual number of objects is 100.

- If your guess is 75, then the absolute guessing error is 25.
- If your guess is 110, then the absolute guessing error is 10.

Record the absolute guessing error of at least 12 guesses in Table A of the handout from your teacher (or elsewhere as directed).

2 Plotting the Guesses

Student Task Statement

Refer to the table you completed in the warm-up, which shows your class' guesses and absolute guessing errors.

1. Plot at least 12 pairs of values from your table on the coordinate plane on the handout (or elsewhere as directed by your teacher).
2. Write down 1–2 other observations about the completed scatter plot.
3. Is the absolute guessing error a function of the guess? Explain how you know.

3 Oops, Try Again!

Student Task Statement

Earlier, you guessed the number of objects in a container and then your teacher told you the actual number.

Suppose your teacher made a mistake about the number of objects in the jar and would like to correct it. The actual number of objects in the jar is _____.

1. Find the new absolute guessing errors based on this new information. Record the errors in Table B of the handout (or elsewhere as directed by your teacher).
2. Make 1–2 observations about the new set of absolute guessing errors.
3. a. Predict how the scatter plot would change given the new actual number of objects.
(Would it have the same shape as in the first scatter plot? If so, what would be different about it? If not, what would it look like?)

b. Use technology to plot the points and test your prediction.

4. Can you write a rule for finding the output (absolute guessing error) given the input (a guess)?