

Figure 2.12
Mathematics Instruction Scenario

Directions: Read the following scenario, and respond to the formative assessment process questions.

Mrs. Leibach recalls that the last time she used the following problem task in a lesson, she needed more preparation for determining what students were or were not learning as they engaged in the problem-solving task. This time, during instruction, she was committed to gathering student-learning data so she could make better decisions about the type of formative feedback to provide and the next steps in instruction and student action to increase the potential for student learning.

Riding to the Park Task: You are riding to the park. You start off at your house, located at A $(-5, 2)$. You ride to the store located at B $(-5, -8)$ to buy some sunglasses. After that, you pick up your friend at C $(1, -8)$. Together, you ride to the park located at D $(1, 9)$. If one unit on the coordinate grid equals 1 block, how many blocks did you ride? If you rode from your house straight to the park, how many blocks would you ride? Explain your thinking and the process you used to solve the problem.

1. Mrs. Leibach wanted a series of questions ready to ask her students in order to probe their thinking. Two question starters appear below. What are two more question starters she could use?

+ What do you know about the coordinate grid? How can you use that to solve this problem?

+ Where do you start with the information given in this problem? Why?

If students need more prompting, Mrs. Leibach could ask the students to plot the points listed, and then see if that helps them answer her questions.

2. What questions do you anticipate the students will ask Mrs. Leibach?
3. With which problem-solving strategies (such as working backward) might Mrs. Leibach observe the students engaged?
4. Because student responses to the task will vary, how do you propose Mrs. Leibach facilitate the process?
5. What misconceptions do you anticipate Mrs. Leibach will uncover? What suggestions do you have to help her address these misconceptions?