

Teacher Supporting Materials For Lesson 3 Episode 3: Reflecting

Episode Description

Keoni and Sasha reflect on the meaning of their equation.

Students' Conceptual Challenges

Many practice problems in algebra ask students to either to evaluate an equation by replacing variables with given values, or to solve for the value that will make the equation true. For Sasha and Keoni's problem, the variables represent the coordinates of a general point on the parabola. This different use of variables in a general formula might be confusing to students.

Sasha and Keoni express this confusion [2:43-3:15]. By talking about where the b -value is on the graph and how the y -value is represented on the graph, they connect the variables to representations. As they discuss how they would use the general formula [4:38- 5:20], they engage with the idea that the variables in the equation represent a general point on the parabola.

Focus Questions

For use in a classroom, pause the video and ask these questions:

1. [Pause the video at 3:22]. What do you think Keoni is wondering about?
2. [Pause the video at 4:38]. How can Keoni and Sasha use the equation?

Supporting Dialogue

1. $b = \sqrt{4y}$ is an equation. What does that equation tell us about the graph? Come show us on the graph.
2. Does someone see it differently? Come show us on the graph.

Math Extensions

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1. What is the x -value of the point on the parabola with the y -value of 5.25?
2. What is the x -value of the point on the parabola with the y -value of $\sqrt{17}$?

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