Lesson 4 Teaching Portal Materials

Episode Supports

Episode 3: Repeating Your Reasoning

Episode Description

Sasha and Keoni use their equation $x = \sqrt{4y}$ (which they call the "short-cut way") to find the y-value of 3 points: when the x-value is 5, 10 and 437.

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

1.   [Pause the video at **1:03**]. Without using a calculator, how can you determine the value of $\frac{25}{4}$?

2.   [Pause the video at **1:50**]. Sasha just wrote that y = 25. What information does that give you about the parabola?

Supporting Dialogue

- Invite a reluctant or shy student to suggest an x-value on the parabola (just like Keoni suggested x = 437). This is an accessible entry point for students who find contributing to class discussion challenging. Then ask the class to find the y-value for that point by using the equation $x = \sqrt{4y}$.

- Create an opportunity for productive disagreement by asking students if there is an x-value for which there will be no y-value on the parabola. Some students may think the parabola "ends" at about x = 8.5; others may not conceive of x-values other than whole numbers; and some may understand that there are infinitely many points on the parabola and that x can be any number.

Math Extensions

1.   What is the y–value of the point on the parabola with the x- value of -7.1?

2.   What is the y–value of the point on the parabola with the x-value of $\sqrt{11}$?

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