

Teacher Supporting Materials for Lesson 1 Episode 3: Reflecting

Episode Description

Sasha and Keoni justify how their three methods for finding points on a parabola satisfy the criteria in the definition of a parabola.

Students' Conceptual Challenges – none. Omit this tab.

Focus Questions

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

1. [Pause the video at **0:17**]. The term vertex is written in green. What is a vertex? How do you know that it is on the parabola?
2. [Pause the video at **0:46**]. Sasha is pointing to a line. What how does that line help her find points on the parabola?

Supporting Dialogue

When students are working on the tasks in class, you can support dialogue as follows:

- Invite students to reflect on the problem solving process, ie. , “When you were working on constructing a parabola from the definition, where did you get stuck?”
- Invite students to reflect on how they successfully struggled, ie., “What helped you get unstuck?”

Math Extensions

These questions allow students to extend concepts and terminology from the episode:

1. You have explored parabolas by constructing a one from its geometric definition. Parabolas have other interesting properties. Satellite dishes are 3-d parabolas. Why is the parabola used for these satellite dishes?

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2. Examine your environment. Do you see other examples of parabolas around you? How do you know that the shapes you are seeing are indeed parabolas?

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Learning through dialogue

