MOLLY MCNINCH: Mm-hmm [affirmative].
STUDENT: If you make this 99 --
MOLLY MCNINCH: Yep.
STUDENT: -- it's 100 inches. But if we make this 99.9, it goes to 1,000 inches.
MOLLY MCNINCH: Oooh.
STUDENT: [Inaudible]
MOLLY MCNINCH: Well think about it, what happens when you add that .9 ?
STUDENT: A zero is added on.
STUDENT: Yeah, but you make it --
MOLLY MCNINCH: A zero is added on, but what happens to ...
STUDENT: -- more similar to the wide diameter.
MOLLY MCNINCH: Exactly. So what does that mean about the comparison of the wide and narrow diameter?

STUDENT: It's very important and it changes the radius.
MOLLY MCNINCH: It changes the what?
STUDENT: It changes the roll radius.
MOLLY MCNINCH: Yes. So, if I have a really, really large wide diameter and a really, really small narrow diameter, how does that change the roll radius?

STUDENT: It makes it smaller, which means it can't go as far.
MOLLY MCNINCH: It can't go as far. Now, you guys have an example of when the narrow diameter is zero.
STUDENT: So it's like a triangle, I think, this way.
MOLLY MCNINCH: It's a triangle. What's a three-dimensional word for it?
STUDENT: A pyramid.
STUDENT: A cone.
MOLLY MCNINCH: It's going to be a cone, yeah. Pyramid -- circular pyramid. So when it's zero, what would it visually look like? So you have ... Oh my gosh, you have really great images. So, l'd think about what it would look like visually. I like that you have this. Because you have to account for that missing cone part.

STUDENT: Yeah.
MOLLY MCNINCH: Okay? How do you factor that in? How would you account for that?

STUDENT: Do you, like, add on that volume -- or area to it and ... I don't know.
MOLLY MCNINCH: So, so draw a picture, and you'll be able to kind of see, okay --
STUDENT: So like this. And you have to take away this smaller triangle --
MOLLY MCNINCH: Mm-hmm [affirmative]
STUDENT: -- which is like --
STUDENT: When you -- when you find the equation, would you just add on this part of it?
MOLLY MCNINCH: So, the whole equation will have to do with this whole image you have.
STUDENT: Okay.
MOLLY MCNINCH: Okay? Because it's still -- it creates the roll radius by that -- because, okay, let's back up. So the roll radius, when I have a zero as the narrow diameter, is equal to what?

STUDENT: The slant height.
MOLLY MCNINCH: The slant height. So that means, because my roll radius for this cup is not equal to my slant height, correct?

STUDENT: Mm-hmm [affirmative]
MOLLY MCNINCH: It's equal to my slant height, and then I also have to account for all the way down, right?
STUDENT: Yeah.
STUDENT: So, how do I find that?
STUDENT: It's like similar triangles.
MOLLY MCNINCH: Oh my gosh. That would be a great place to start.

