

<http://www.insidemathematics.org/classroom-videos/public-lessons/9th-grade-math-modeling-through-geometry-circumference-of-a-cup-s-roll/lesson-part-3b>

STUDENT: Just randomly said that in my head, and maybe it was 10 here. So maybe I was thinking something.

STUDENT: What were you thinking?

STUDENT: I just have to figure that out.

STUDENT: Yeah.

STUDENT: What was I visualizing?

STUDENT: I don't know but -- but I was thinking, OK, so maybe we can do, like, the graph thing and how it turns into a cone by like -- this is half the wide, no wait. Oh, this is the wide diameter and this is the narrow diameter. And then we have to see when it reaches a point. I guess I'll just take one of them.

STUDENT: To get the roll radius. So, we're just trying to figure out, like, different, like, combinations of how far they are apart --

STUDENT: I'm trying to figure out what the --

STUDENT: Yeah, to get the roll radius.

STUDENT: [Inaudible]

STUDENT: Okay.

STUDENT: Can I try something after you?

STUDENT: Yeah, you can try.

STUDENT: Okay, so I'm going to try three-fourths.

STUDENT: What if --

STUDENT: So four point seven five, and four ... No, wait. Yeah, so roll. So, okay. Maybe it's this times this times this.

STUDENT: Okay, yeah, so this is basically what we figured out last time, right? This part? But not -- not this part?

STUDENT: Yeah, we figured this out with ...

STUDENT: Yeah, okay, and then you just test some of the numbers?

STUDENT: Yeah.

STUDENT: That would be a hundred and ninety.

STUDENT: And then, and -- she just gave us this to me, so I don't know what this is.

STUDENT: This is Heather.

STUDENT: Heather?

STUDENT: Our new friend.

<http://www.insidemathematics.org/classroom-videos/public-lessons/9th-grade-math-modeling-through-geometry-circumference-of-a-cup-s-roll/lesson-part-3b>

STUDENT: Oh. Did you guys do anything with this packet yet? Or, have you guys not?

STUDENT: No. Not yet.

STUDENT: Okay, and this is the same paper from [inaudible].

STUDENT: I'm trying to see -- so -- oh, maybe it's squared? I don't know. Wait, no, it can't be because ... Can I see something?

STUDENT: Wait, where are you seeing that? Or is that just an arbitrary number?

STUDENT: No, it can't be four point seven five squared because that's more than sixteen anyways. So what's four point seven five times ten? Forty seven ...

STUDENT: So what if you're formatting it before we found the equation? What if we did like an XY table and found the pattern like we did?

STUDENT: OK, so we could do that. If you had, like, this...It's not an XY table but it's like an NW table.

STUDENT: Yeah.

STUDENT: So if it's one, then you can have values. How would you show both of these in one table, with this?

STUDENT: I was thinking like the one we did a few chapters ago where we had, like, this table and we found the pattern between the two. When we found, like ... Would that work for this?

STUDENT: I don't know because there's more than one value for each time. Like, this is like this, and it changes based on the slant height.

STUDENT: But if we did, like, just slant height. We know that these two are related. Like if we did one for those two, one for these two, and one for these two ... Could we somehow --

STUDENT: I think it could help.

STUDENT: So we could find a formula from --

STUDENT: Yeah. I think it's more useful to, like -- if you have all of the values of the slant height except for zero because we know that when the slant height is, like, whatever, then also the roll radius is the same. So if we did all of the slant heights that are one, and you found a pattern through those, maybe that would be helpful?

STUDENT: Okay.

STUDENT: We need to figure out how -- so these are just -- so when we look at this, this is just a portion of a cone, right?

STUDENT: Yeah, basically, yeah. That's what all the cups are.

STUDENT: So if we solve for the whole cone we will know what the roll radius is then?

STUDENT: Yeah, but you have to figure out how to make it reach a cone.

STUDENT: All right.