

MOLLY MCNINCH: So I know a lot of you guys are still working on the problem and you're getting very close. So what I want to do ... Oops, sorry. What I want to do is because I want us to all share our -- our ideas, your posters are going to be posted up on the whiteboards.

So, I'm noticing that some posters are very blank, so I want you guys to start -- again, these are status posters, so we're just looking at what was your journey. What thinking did you do? Did you come up with a solution? Now, I don't mean -- it doesn't need to be super spiffy with all the beautiful colors, but I do need to be able to see it from a distance, so, I would start working on your posters, because I'm going to stop you guys soon so we can go over and look at them together. All right, get going.

STUDENT: We know these are true, but -- we -- but -- if you don't solve -- so -- if you took -- if you took the first numbers you took, so --

STUDENT: Well, since you're solving for R , you don't need to plug it in, because you're assuming that we don't know what the roll radius is.

STUDENT: Yeah, so if we plug in ... Hold on where --

STUDENT: If you plug in everything else it works out so the R equals what we found the roll radius.

STUDENT: Wait, what about RA equals WR minus S , so R -- okay --

STUDENT: Well, remember you have to --

STUDENT: Yeah, that's where -- here -- so this would be the equation that you need to put in.

STUDENT: Yeah.

STUDENT: You want to put N equals W minus F , what?

STUDENT: No, so ...

STUDENT: I'm reading the sentence, so I can have ...

STUDENT: Okay, I'll flip it.

STUDENT: What? No, this fine, this is fine.

STUDENT: So the roll radius divided by the wide diameter, so the big triangle, is equal to the roll radius minus the slant length, so this length times the narrow diameter. Remember when we were comparing two triangles?

STUDENT: Yeah.

STUDENT: It's that exact thing. You're comparing the big triangle to the smaller triangle. And if you plug in, like, the values from our first -- these values --

STUDENT: I thought when we tried that it didn't work. How -- what's different about that?

STUDENT: What do you mean? I think when -- when you tried it here?

STUDENT: Yeah.

<http://www.insidemathematics.org/classroom-videos/public-lessons/9th-grade-math-modeling-through-geometry-circumference-of-a-cup-s-roll/lesson-part-4a>

STUDENT: The only difference is you don't plug in the roll radius, because that's what you're solving for, so we're assuming that we don't know.

STUDENT: Okay, I get it.

STUDENT: Yeah, so if you try it -- you can try it again with, like, pretending we don't know what it already is, you can figure out and you solve for this number.

STUDENT: Okay.

STUDENT: Yeah. I think -- can we -- can I rotate it?