JIM KARDITZAS: What do -- what do you think some of your next steps would be to help students that may not have gotten to that -- that equation or understanding? I mean, they might have written it on the poster, but maybe not understand it.

MOLLY MCNINCH: Yeah. So I think that -- because it's actually going to work out nicely, because our next class, we're going to -- I'm going to bring in the three [fictional] student works [from "Judi," "Gerry," and "Heather"] that they had looked at today. And we're going to bring that in to kind of tie the packet together that they had to fill out with the observations of the student work.

So I think bringing that back in and having them look at -- not their own work -- and so they're no longer responsible for creating a product, but rather they're responsible for observing and evaluating. And so I think by pulling that in, it might allow for students to take themselves out of the -- out of the -- out of the equation. It allows themselves to take themselves out and really focus on what is being represented. And so students who are still having misconceptions -- I think it'll be really great to bring this problem back when we start chapter eight. Because I'm starting chapter eight with a chapter seven lesson. So we're going to start with both of them.

JIM KARDITZAS: So what's -- just explain what chapter eight is and what chapter seven is.

MOLLY MCNINCH: Oh yeah. Chapter seven is *similarity*. So it's similar triangles, which is what -- the unit we did that relates to this activity. And so I am going to pull this activity in once we begin our chapter eight, because we talk about the similarity of areas and we talk about the similarity of volume. So chapter eight is [about the] area of all different types of polygons. And we touch back on similarity of polygons and how to find them.

JIM KARDITZAS: Okay. Molly, could you show us a few examples of student pre-work and then their final work, and how do you think that flowed for you?

MOLLY MCNINCH: So this was the group I talked about earlier that was kind of struggling with seeing the chapter seven relationship. And so -- when we look at the student work, one of the group members had a lot of ratios and [was] trying to calculate a common scale factor, it looks like.

And so they're comparing the wide and narrow diameter, which is really great, but if we look at this, there's not any mention of the slant height, which is something that really factors into the circle and the roll radius. So I think that by really helping them see, okay, "what is the similarity" -- or, sorry, "what are the similar triangles, and how does that help you see these?" That was very helpful.

So with this group in particular, I actually gave them an example with the diagram, and then [I] input values that they already had on their table. And then I put an *X* for the length between the base of the cup and the center of the circle, which is what they're searching for.

Because they need that value to find the roll radius. So once I separated it like this, it was easy for them to see that they shouldn't be focusing on the diameter, so much as focusing on the slant height and the roll radius and how those two relate.

So another example would be -- so for this group, they had a lot of calculations and one diagram that I had them put in at the end. So this one, when we look at what their data is -- again, they're also doing a lot of calculations and you can tell that they're really trying to see how the relationships develop that roll radius.

So when we look at their data, this just completely went from, "Okay, I'm brainstorming, I'm brainstorming," to "Okay. I have it and now I'm proving it with all of these examples." So I think this is a really great representation of, "I was working through it here. I was kind of getting an idea." And again, they're still just focusing on the diameters and not anything regarding that slant height. So once we focus there -- once we bring in the slant height, which was given from the other student work, that was really helpful.

So with the additional pieces, it was really helpful, I think, for my students to have three separate colors. And then my fifth period, it was helpful -- both of these are from my -- my second class that I taught. And when I did it the first time, I didn't tell them anything about whether they had solutions. But with my second class that I taught for it, I really emphasized that neither of these -- or none of these have the solution.

And it was also helpful to talk about, "Okay, you have three new group members. So we have a red, a yellow, and a blue group member. And what does each group member bring to your solution or your ideas that you didn't have before?" So -- yeah. So "what does each individual new group member bring that you didn't have prior," is helpful to the students.

And it was also helpful to see, scanning at the entire class, okay, everybody's looking at the red one. What can I give them for the red one? Or everybody's looking at the yellow. How can I use the yellow one? So really focusing on how can I best move my class as a unit versus how can I help one group, then the other, then the other. So really pushing them as a unit.

And -- yeah. I think they did a really good job. There were only a few groups who didn't have much more that they needed to do to get to their solution. But overall, I think a lot of them improved a lot.