AMY BURKE: You're already doing the mathematics that's on here [inaudible]. Thank you.

STUDENT: So you see how I did it?

STUDENT: Wait, hold on.

STUDENT: You still putting them in order?

STUDENT: Yep.

STUDENT: Because once you're done, you're gonna click the wrench.

STUDENT: Just write it down.

STUDENT: Mm-hmm. [affirmative]

STUDENT: I was about to say like, "Oh yeah, I'm just going to write down--"

STUDENT: You're subtracting.

STUDENT: Yeah, I got it.

STUDENT: Wait, do you want to switch these two? Or you just want to leave it?

STUDENT: What do you mean?

STUDENT: Do you want to switch it? Or you're talking about adding this and the other one up there?

STUDENT: Yeah, but I think ... I think we got it.

STUDENT: Okay.

STUDENT: With the way it looks.

STUDENT: Okay, use your model to find the maximum volume of the box.

STUDENT: Mm.

STUDENT: I don't know how we're going to start with that.

STUDENT: I think it's just the -- the intersections with the purple--

STUDENT: Oh, we plug them in.

STUDENT: Yeah, with the purple line and then with the black line. Like, to see what intersects.

STUDENT: Yeah. So, take a look at some of these numbers, see what happens if we ...

STUDENT: One centimeter.

STUDENT: One centimeter?

STUDENT: Yeah.

STUDENT: One centimeter is going to maximize, um, the volume for--

STUDENT: What do you guys think ... I know why it maximizes it but I don't know how to put it into, like, mathematic terms.

STUDENT: I mean, I just put, "The smaller the cut, the more grid space left over to make the box."

STUDENT: No, the first one. Try the first one. Oh, wait, the first one, it can't be. It can't be the first one because it's negative so ...

STUDENT: 9.286.

STUDENT: So that -- it's -- Wait a minute. Okay, so that's the cut size, volume--

STUDENT: The *x* intercept is 9.286, meaning -- what is the cut size? It's 0 centimeters?

STUDENT: ... so this is the *x*. [inaudible]

STUDENT: Yeah, but the equation would always be like that.

STUDENT: So, uh, do you have 5 yet?

STUDENT: Wait, wouldn't the equation always be like that? So why would we count it?

STUDENT: Hm?

STUDENT: This part? Why would we ... why would we get the *x* intercept from here if it's always like this when it's not what we're--

STUDENT: Just so you don't have to worry.

STUDENT: Yeah, you don't have to worry about this line because uh ...

STUDENT: It's negative.

STUDENT: Yeah, it's negative. On the *x* intercept. But if it's like right here, then that would be like the *y* intercept right there. Because it's on the *y* axis.

STUDENT: No, I'm asking because our data doesn't go to … on an *x* axis, but the equation here, it will always hit an *x* axis, so why are we using it?

STUDENT: That is true. Let me see.

STUDENT: What is this question even asking?

STUDENT: Like, this is 963 but it can -- it can -- it can go more though, right?

STUDENT: If it keeps going ...

STUDENT: Yeah. [laughs]

STUDENT: So, it could be this, I think.

STUDENT: Can it go more? Can it go more though? Let me add another one.

STUDENT: Our data can't. Unless you added 10.

STUDENT: Yeah. If you add more data, it's kinda gonna follow the same line.

STUDENT: Ten. Can someone find 10 centimeters on here?

STUDENT: We don't have 10, it only goes up to 9.

STUDENT: All right, so if we had a box of 10, so ... if this is 19, that's 25 so ... 1, 2, 3, 4, 5, 6, 7, 8, 9, 10. So, 1, 2, 3, 4, 5, 6, 7, 8 ...

STUDENT: That's what we did, right?

STUDENT: So this will be the cut. That -- but that's too large.

STUDENT: Oh, I -- wait, what's the value for the height? I think that would be for 6, like, because 10 is too big.

STUDENT: Mm-hmm. [affirmative]

STUDENT: I don't know because then if you look at the graph, like, 9 is up here, 8 is here, but then 10 is like below it so that's negative. You would get negative volume.

STUDENT: So we don't have it.

STUDENT: So it's impossible.

STUDENT: Yeah. It only goes to 9, that's why.

STUDENT: So, we don't have an *x* intercept.

STUDENT: We can fight that we don't have one. [laughs]

STUDENT: Unless we can use the negative? I know we can't but, like, is v-- well, it's volume, it's not telling you how many people ... it's not by people, it's by just, you know, a graph. So what if we can use negative, too?

AMY BURKE: Okay, wrap up your conversations.

STUDENT: Our data doesn't hit the *x* intercept, and I don't think we should use like--

STUDENT: The negative.

AMY BURKE: Hm. Why not?

STUDENT: Because, yes, this is, like, the cubic equation, but it's the equation from -- it's the cubic equation so no matter, like, whenever you input it, it's always going to hit the *x*--

STUDENT: Over at zero.

AMY BURKE: Hm.

STUDENT: Because it's not our data, I don't--

AMY BURKE: Mm-hmm. [affirmative] Okay.

STUDENT: It's just better to, like, see if our data is like ...

AMY BURKE: Is fitting the model.

STUDENT: Yeah.

AMY BURKE: Okay, okay. I hear you.