BARBARA SHREVE: So table 1 caught a little mistake on this, that this should be 20 if we're even going to consider it as making sense. But...what do we think? Who's right? Only...okay, two tables are raising their hands. I should have at least six hands in there. Three, four, okay. All right, I'm going to go over here real quick. Elizabeth, what do you think? If you agree, if your table agreed that this one is correct, can you guys raise your hand.

STUDENT: Which one?

BARBARA SHREVE: That Miguel is correct. So table 5 is with you, or at least one person. Okay, interesting. So what do the rest of you guys think? Kayla, what do you think?

STUDENT: We thought Katie but it ended in a zero, so Miguel might be right.

BARBARA SHREVE: Tell me more about that.

STUDENT: What?

BARBARA SHREVE: You said it ends in a zero. I'm not sure I understand.

STUDENT: Because if it was just a factor, it wouldn't have the zero in the end, would it? If it was to start like that, it wouldn't have a zero in the end.

BARBARA SHREVE: Oh! So you're saying that if this wasn't here, so if it just look like that. So if it just ended in equals 20 then you'd factor?

STUDENT: Yeah.

BARBARA SHREVE: Okay. Do you guys agree with Kayla?

STUDENTS: Yes.

BARBARA SHREVE: I thought I heard a no. Did you say no, Josalyn?

STUDENT: No.

BARBARA SHREVE: Okay. So you agree that this is starting to factor. I like that. How does it change when we add that zero on the end?

STUDENT: What was the question?

BARBARA SHREVE: How does the problem change by adding that zero? What changes about it? Does that question make sense?

STUDENT: No.

BARBARA SHREVE: Thank you, Lupita. I appreciate it. Like, when we add that zero, it changes something about the problem; it changes what we're looking for. Right? Once we add that zero, we can actually find the x that's going to make this equation true. So, I have one more question for you guys. Anybody liking Stefan's answer? Stefan's way of starting? You like it? Tell me more about why, Josalyn.

STUDENT: ...and Miguel's problem is quadratic formula and I might get a different answer.

BARBARA SHREVE: So you think Miguel is going to get a different answer but this one...

STUDENT: Yeah, because it, what's that called, Miguel's problem, they gave the a, b, and c and it's gonna be different and Stefan's is looking for, it's only for the x. Because you brought 14x to the other side, now it equals 14.

BARBARA SHREVE: Okay, so now he changed it so we're starting to get x's on one side. We still have $x^2$ and numbers over here right?

STUDENT: Because we use Miguel's problem. Miguel's problem is going to be a different one because it's quadratic formula. And it's going to be x equals something else.

BARBARA SHREVE: Interesting. Okay, so you think quadratic formula is going to get us to a different x place?

STUDENT: Yeah.

BARBARA SHREVE: Okay. So I need somebody...now you guys have said what you think for yourselves, now I need you to start arguing with each other a little bit. Right? So somebody...is anybody willing to argue a little bit with Josalyn and – who's somebody who didn't think Stefan was right? Or to argue a little bit with Kayla, who thought Katie was right? Who's willing to open up that math discussion?

STUDENT: With Miguel?

BARBARA SHREVE: You can argue with Miguel too. I'm just looking for somebody...you said what you think but maybe we need to talk about who started, how we think, or why we think people – one of these started incorrectly. If this is Katie's work, she's starting to factor it. What's going to happen? What's it going to look like after she finishes factoring?

STUDENT: (Inaudible)...one on the top and one on the side, right?

BARBARA SHREVE: Right. We're going to have some expressions here. We're going to have this be like plus something and this be plus something. So eventually we'll have a problem that looks like this right? With our 2x's and our x. Can we keep solving this to find x?

STUDENT: Yeah.

BARBARA SHREVE: Yeah. So even though it starts looking like she's doing a different problem, if she keeps going, we might be able to get where we want to go. So do you think this is going to get us to a solution? I see Rodney nodding.

STUDENT: (Inaudible)

BARBARA SHREVE: Yeah. We can get this down to where we'll have like x equals, right?

STUDENT: Yeah.

BARBARA SHREVE: Okay. So maybe Katie's works. Yeah? So we like Katie's starting place, but that doesn't mean the other two are wrong. There's a lot -- often there's more than one way to do these. So how about Stefan's? Does seeing where Katie's is going change anybody's thinking about Stefan's? Make them want to say yes he's on the right track, or no he's not? You guys aren't usually this shy. Okay. If we start working along these problems, right? He's starting to get his x's over here, what would his next step be? What would you try next?

STUDENT: You still got that $2x^2$.

BARBARA SHREVE: $2x^2$, uh-huh. So you still have this.

STUDENT: And 14x on the side. What is there left to factor? What would you even do next?

BARBARA SHREVE: Can you guys hear Kayla? Can you guys hear her?

STUDENTS: Yes.

BARBARA SHREVE: You're asking these really smart questions and really important questions. You're wondering in all the right places and you're doing it very quietly. Can you say it one more time?

STUDENT: You still got the 20 on the side too. And you got the 14x on that side. What is there left to factor?

BARBARA SHREVE: Yeah, what is there left to factor? Ronald?

STUDENT: I never did a problem like this, but as far as $x^2$ being in the problem…

STUDENT: Don't we have to make zeroes?

STUDENT: You have to make zeroes with them.

BARBARA SHREVE: Even if we keep making zeroes, like take $2x^2$ from each side, right? We still end up here with something that we can't quite factor yet. And Ronald, I couldn't quite hear what you were saying.

STUDENT: I said I never did a problem like this as far as $x^2$.

BARBARA SHREVE: Yeah. When there's an $x^2$ we don't usually move things around so much, right? We want it to equal zero so that we can factor it. So Stefan's not doing something that is mathematically illegal, he's keeping the equation balanced, but it's not going to move us towards a solution. Okay? So his first step isn't going to get us where we want to go. Okay? So...

STUDENT: He's wrong?

BARBARA SHREVE: He is wrong. Now Miguel's is a little different. Can you guys tell me how many of you have looked at the quadratic formula, this fancy formula in Algebra B at this point? Have you guys looked at this with Mr. Cabana? Just put your hands up. Okay. So when we're using the quadratic formula, when do we use it? We haven't talked about it in here at all.

STUDENT: So maybe we don't know.

BARBARA SHREVE: No. If you know it from Algebra B, you know. When do you use it?

STUDENT: You use it to find x-intercepts.

BARBARA SHREVE: You use it to find x-intercepts? Yes. You use it to find x-intercepts. When do you do this instead of factoring?

STUDENT: When your problem looks like that?

BARBARA SHREVE: Sometimes doing this is shorter, right? When you can't factor it. Exactly the reason. Like Lupita had said, sometimes even when you can, if you're having trouble finding the numbers, this can be an easier way to do it. And we're going to be looking at this a lot after spring break and work on this formula. So starting with this though, if we're finding x-intercepts like Luis said, then we're still finding x with this formula, even though we start with a, b, and c. So this will still take us to finding x-intercepts. So this is also an okay way to start. So both Katie and Miguel have ways to start that are going to help us get the answers. Okay? Stefan's not doing something mathematically wrong, but it's definitely not going to get us there quickly. Okay?