STUDENT: Yeah, yeah, because we're trying to find High Rollers. Um ...

STUDENT: Because we have 2*x*.

STUDENT: Horizontal, nope diagonal.

STUDENT: Why?

STUDENT: Because you see? One of the sides we have to find is this one.

STUDENT: Yeah.

STUDENT: And that one. For this one, I got 6.5 because 5 -- I added the two 1's I get there, which is 5*x* and 1.5*x*, and that gave me 6.5*x*. And, but this one is 3*y*, and one-half of *y*. So, if you were to use the map they give you, you'd add them and get 3.5*y*, 3 and a half *y*. Even though it's different from this side.

STUDENT: Yeah.

STUDENT: Yeah, so ...

STUDENT: 6*z* in here

STUDENT: Because that's what they give us. So, it's not …

STUDENT: I'm not sure about this one.

STUDENT: Well, so ... If you see this piece right here, if you add these dimensions right here, 6*z* plus 6*z* and then minus 1, minus 1. Which would equal to -- you'll be minusing 2 from 12.

STUDENT: Yeah.

STUDENT: That would be 10. Plus a 3*y*, which would equal to 13*x*, but we don't know where that *x* comes … in place. It must be on this side though.

STUDENT: Yeah.

STUDENT: And, we'll figure this out later, so -- since we know all the dimensions of this square.

MELISSA NIX: Yeah.

STUDENT: So, 6*z* minus 1 times 3*y*.

STUDENT: That's what I got.

MELISSA NIX: Why you got that?

STUDENT: Oh, you got that.

STUDENT: I already did it.

STUDENT: Then you can do the same thing for Kids Corner.

STUDENT: I got 6*z* minus 1 times half *y*.

STUDENT: And then did you Four-Wheel?

MELISSA NIX: And, I really like what you've done here. If you multiply that out--

STUDENT: Uh, yeah. I got 2*y* plus 3 times 5*x*, but for 2*y* plus 3, I put it in parentheses.

STUDENT: So, what are we going to do?

STUDENT: Well, is it ... I don't know how we're going to do this one if we don't have this side. Like, if this is the same.

STUDENT: That's true.

STUDENT: Yeah, so if the value is a 2, that will be 12--

STUDENT: Do we have the ...

STUDENT: So, you can't subtract--

STUDENT: It would be better if they gave us like the actual full area.

STUDENT: … one, because you don't have this entire thing over here. We only have these two values.

STUDENT: But, those are two ...

STUDENT: We don't even have these.

MELISSA NIX: Uh-huh.

STUDENT: Yeah.

STUDENT: Or this one, or this one, or this one, or this one.

STUDENT: Yeah.

STUDENT: Or this one.

STUDENT: Unless these two are the same.

STUDENT: Maybe.

STUDENT: They might be.

MELISSA NIX: So, show me what you multiplied to get that.

STUDENT: Oh, yeah.

STUDENT: Um, 1.5 multiplied by 3.

MELISSA NIX: And is that the entire term? It's 1.5 …

STUDENT: This one, right--

STUDENT: I guess.

MELISSA NIX: So, does that show up in your answer?

STUDENT: No.

MELISSA NIX: So, what did you do differently?

STUDENT: I -- I kept the *x* because it's 3 times that, and we don't know what *x* is. [inaudible]

MELISSA NIX: Okay. So, using that same pattern to try the other ones, could you figure out what the other ones would be. And, [inaudible], I agree that your rectangular dimensions are going to have the same dimensions because it's a rectangle.

STUDENT: Yes.

MELISSA NIX: So, you have two sets of parallel lines, so the distance of those parallel lines will be the same value.

STUDENT: Okay. Thank you.

STUDENT: So, I, uh, these are the side lengths for the ones that we're going to try and split it up, but we're not really sure how to find it.

MELISSA NIX: Oh, okay. Um, what information do you know about.

STUDENT: The 26*xy* plus 13*x*.

MELISSA NIX: Okay.

STUDENT: That's to get the area.

MELISSA NIX: Okay, that is the area. Okay, I see that because that's on the inside, right? We talked inside. So, what was your thinking about splitting it up?

STUDENT: Um, we just thought cause like, they already split it up for us pretty much. So, if we just found half of it. Like, if we just split up the area.

MELISSA NIX: Do you know if where you drew your split line is exactly half of this area though?

STUDENT: No.

MELISSA NIX: No. So, I'll be a little bit anxious about splitting it because I don't know for sure if these are split in half. How could you use the dimensions that you figured out, though, to know if you didn't split it in half?

STUDENT: Could we add them and then ...

MELISSA NIX: Could you add them? What would 5*x* and 1.5*x* be?

STUDENT: 5*x*.

STUDENT: 6.5*x*.

MELISSA NIX: Huh. So, this length here is 6.5*x*. Could you use that to figure out what you would have to multiply it by in order to get this area?

STUDENT: You could divide it by 2.

MELISSA NIX: So, maybe that's where you can work. So, I -- I think that thinking is very interesting. If this is 6.5*x*, as Miranda said. What would this dimension be to get you this area?

STUDENT: Um, okay.

STUDENT: 6.5*x*.

STUDENT: No, 3.25.

STUDENT: No, it's really 3.5.

STUDENT: Oh, yeah.

STUDENT: 3 and a half is equal to 6 and a half *x* [crosstalk]. So, that might be important to find the area.

MELISSA NIX: How did you figure that out?

STUDENT: Because this--

MELISSA NIX: What two pieces of information did you use to figure that out?

STUDENT: So, if you add these two side lengths, it would equal 3 and a half *y*, and then if you add these two side lengths it would equal 6 and a half *x*.

MELISSA NIX: Oh, so you then did what with that, 3 and a half *y* and 6 and a half *x*?

STUDENT: I'm trying to find, like, this--

MELISSA NIX: You set them equal to each other, and now you're simplifying to figure what the value of each of them will be. So, this is the ratio of how they are related to each other.

STUDENT: So, one -- one and three quarters *y* is equal to three and one quarter *x*.

MELISSA NIX: That's awesome.

STUDENT: And--

MELISSA NIX: Now, is that going to help you find your figure of your area? It might, right?

STUDENT: It might, yeah.

MELISSA NIX: Okay. How's it going? If we made this with algebra tiles, what would we pile on here?

STUDENT: .5 goes like this.

STUDENT: Um, of the long piece ...

MELISSA NIX: Five of the blue *x*'s, right?

STUDENT: Yeah.

MELISSA NIX: And if I could, what would I -- I would line up five of the blue algebra tiles here, and what would I line up here?

STUDENT: One and a half.

MELISSA NIX: One and a half of the algebra tiles? So, how many of those algebra tiles would I have --

STUDENT: Six and a half, 6.5.

MELISSA NIX: And, what are they called? The name of those algebra tile--

STUDENT: *X*'s.

MELISSA NIX: They're *x*'s. So, you're actually going to end up having six and a half--

STUDENT: Oh. You just have the *x*, like [inaudible].

MELISSA NIX: So, is it 6 and a half plus 2*x*?

STUDENT: Wouldn't it just be --

STUDENT: 2 and a half *x*.

STUDENT: 6 and a half *x*.

MELISSA NIX: I'm thinking it's just going to be 6 and a half *x*.

STUDENT: Oh. That makes sense.

MELISSA NIX: That's a great question. So, let's visualize it. Do you remember on Monday when we played with the algebra tiles?

STUDENT: Mm-hmm. [affirmative]

MELISSA NIX: And what do the *y*'s look like?

STUDENT: Like, small little rectangles.

MELISSA NIX: Yeah, the blue one, the skinny ones, right? And what about the -- what would 3 be made up from?

STUDENT: The individual cubes.

MELISSA NIX: Individual cubes. So, if you are going to combine those terms. Can you combine a blue long and skinny with a small yellow?

STUDENT: No.

MELISSA NIX: No, so likewise what would be equaling five *y*'s? Because Y is its own entity.

STUDENT: Mm-hmm. Beause we're trying to find the area--

MELISSA NIX: Oh, but I see what you're doing here. So, let's simulate your multiplying this dimension one and a half.

STUDENT: That's this one.

MELISSA NIX: Times 2*y* and what would --

STUDENT: But when you mix the variables there, what do you do?

MELISSA NIX: Well, what happened when we did the algebra tiles and we had that long and skinny *x* and the long and skinny *y*? Where we looked at Rectiles.

STUDENT: Would it be *xy*?

MELISSA NIX: Would it be *xy*? What do you think?

STUDENT: Yeah, I was thinking that too.

MELISSA NIX: Why would it be *xy*?

STUDENT: Because it -- because it ends up having one side *x* and one *y*?

MELISSA NIX: Oh, so what would that look like then if you wrote that as an expression?

STUDENT: So, 3*xy* plus 4.5x, because 4.5 goes right here.

MELISSA NIX: There you go.

STUDENT: Oh, okay, so that will be the expression for what the area is.

MELISSA NIX: By Jove, I think you got it.