

MELISSA NIX: I'm going to pose a challenge problem to you that you're going to work on first by yourself and then with a partner. So I want you, right now, as you're cleaning off your whiteboards, just to talk. How do you feel about this? Multiplying, un-multiplying, area, and dimensions thing. Where are you sitting right now with all this information? Just chat for a second.

STUDENT: Do you understand this?

STUDENT: Yeah. Sort of.

STUDENT: I don't.

STUDENT: Oh, you don't understand it?

STUDENT: No.

MELISSA NIX: All right, so. What pieces do you feel comfortable with? When it comes to looking at rectangular figures.

STUDENTS: Oh, I need that.

MELISSA NIX: And looking at like areas or dimensions? Is this still kind of "ish"?

Okay. The reason I'm asking is because I'm gonna have you look at a problem right now and it's going to ask you to look at four dimensions and look for areas. And I'm going to give you some pieces but not all of them. So you need to make sure that you have your puzzle-solving skills out and ready to attack this problem as best you can. And like I've done this whole time, as people come up with different ideas, I'll come share them with you to move your thinking forward. So you're not going to stress, you're going to launch into this and do whatever you think you can to get as best as you can. That sound okay?

Let's figure out what the story's about though because it's a word problem and whenever I tackle a word problem, I just want to know what is the word problem about? So, we're gonna take a volunteer, and Jack, you're right in front. Will you read the first sentence to me?

STUDENT: The carnival is given a rectangular area to set up at the local rodeo.

MELISSA NIX: All right, so we're at a local rodeo. And who is given a rectangular area?

STUDENTS: The carnival.

MELISSA NIX: The carnival. What do you mean by rectangular area? What do I mean by rectangular area? What am I thinking? Miranda, when I say rectangular area, what do I mean? They have a ...

STUDENT: They have uh... it's like an amount of space that's in a rectangle shape [inaudible].

MELISSA NIX: Exactly! The amount of space that's in a rectangular shape, right? Sound all right? Now, Adonay. There will be sections for ... Can you finish the sentence for me? Can you read from there?

STUDENT: Yeah. There will be a section for kids called Kids Corner, traditional fair rides called Country Fair, high-rise called High Rollers, cars and truck rides called Four-Wheeler Fun, and a food court called Carni-Eats.

MELISSA NIX: Yeah, the Carni-Eats. It's the carnival food court. So I want you in your head just to think about it, all right? It's a rectangular area that the carnival is going to set up in. So if you were to close your eyes, think about what you see in your eyes right now, in your mind. And there's a section for each of these different things. How many different sections will we have?

STUDENTS: Five.

MELISSA NIX: We'll have five, right? Let's label them all. We got one for the Kids Corner ...

STUDENTS: Kids Corner.

MELISSA NIX: One for the County Fair.

STUDENTS: Fair rides.

MELISSA NIX: Or country fair, county fair. One for the ...

STUDENTS: High Rollers.

MELISSA NIX: High Rollers. One for the car and truck rides. And one for the food court. And all of this squeezes into what shape?

STUDENTS: Rectangle.

MELISSA NIX: Okay. Are we good with the context of the story? That's a lot of words and that's just telling you what's happening. That's not even telling you any math yet. The plan for the layout is shown in the figure hidden under this box. Use the figure and your knowledge of polynomials, which is what you've been doing, those are the variables and the constants, knowledge of the distributive property and of area to write expressions that are representing each of the missing areas or lengths below. So, Ethan. Is this a rectangular area?

STUDENT: Yes. Maybe. Yes.

MELISSA NIX: Yes, okay.

Leila, do you see Kids Corner somewhere there?

STUDENT: Uh, yeah.

MELISSA NIX: Check. County Fair. Check? Brisa, do you see High Rollers? Yeah. Itzel, do you see Four-Wheel Fun? Neri, are you with me on Carni-Eats? See them all? Do we have all five?

STUDENT: Yes.

MELISSA NIX: All right. We have to figure out the missing dimensions, and you're not going to have to do any of this on your whiteboard. I have this for you as a worksheet. Okay. So I'm actually going to hand this out because I think as I'm doing this I want you to pay attention to where these missing dimensions are. As I hand this out, will you look up here and see, does every rectangle have all of the dimensions?

STUDENTS: No.

MELISSA NIX: Does every rectangle have all the area? Have the area label.

STUDENTS: No.

MELISSA NIX: Now remember, Qwentin, you told me the area is going to be on what part of the rectangle?

STUDENT: The inside.

MELISSA NIX: The inside. So I need to know the dimensions, which are where on the rectangle?

STUDENT: The outside.

MELISSA NIX: The outside. And I need to know the area, which is on the inside, right? So, I need a friend to come up and help me see this better and highlight for me, what are the dimensions that I'm missing.

I'll get you started and then I'm going to pull a fancy stick. Ready? For example, do I have this dimension?

STUDENTS: Yeah.

MELISSA NIX: Yes. Do I have this dimension?

STUDENTS: Yes.

MELISSA NIX: Yes. Do I have this dimension?

STUDENTS: No.

MELISSA NIX: No. So that would be one that I need to figure out. Okay?