

MELISSA NIX: And so I want you to, like all number talks, not use any pen or pencil. So, you can go to the whiteboard in style, but put your pen down please. Okay. And this is all mental. Think about how you're going to solve this. And be prepared, please, to share your strategies for your thinking.

When you have the answer, give me a quiet thumb at your chest. And then test yourself to see if your strategy worked, and see if you can get another strategy, and if you do get a second strategy, put out a second finger. Or a third, or a fourth.

What do you all think the answer is?

STUDENTS: 180.

MELISSA NIX: Do you need to look at it again? You can call it out to me, is what I'm saying.

STUDENTS: 180.

MELISSA NIX: 180?

STUDENTS: 180.

MELISSA NIX: 180? All right, 180. Does anyone think it's something other than 180? No? All right, so, how about a way to solve this? Ellie, what'd you come up with?

STUDENT: Um, I know that 12 times 12 is 144, so then, I ... 3 plus 12 is 15, so I added 3 times 12, which is 36, to 144.

MELISSA NIX: So, you knew that 12 times 12 was 144.

STUDENT: Yeah.

MELISSA NIX: And you said that 12 plus 3 was your 15. Tell me why you knew you needed to do 15 of these.

STUDENT: Because the, it's 12 times 15, not 12 times 12.

MELISSA NIX: So, it's 15 groups of 12?

STUDENT: Yeah.

MELISSA NIX: So, here are your 15 groups of 12, and you added this up? And when you added this up, how did you figure out that that equaled 180?

STUDENT: Um, 4 plus 6 is 10, and 3 plus 4 is 7, so then you add the 1 to the 7 ... [crosstalk]

MELISSA NIX: So, did you stack it like this in your head?

STUDENT: Yeah.

MELISSA NIX: Okay, so you were able to stack it, and come up with it that way? Thank you. Did anyone else solve it like Ellie did? How about someone who did it differently? Heaven, what'd you come up with?

STUDENT: Um, 12 times 10 is 120. And you have to have the extra 5 from the 15, so 12 times ... 12 times 5 is 60, and I added those, the 120 and 60.

MELISSA NIX: So, you took this 15, and broke it down? Turn to your partner for a minute, I think we've done this, uh, a couple day ago. Is there a property in math that is allowing you to --

Turn to your partner and talk about it for a second.

STUDENTS: [crosstalk]

MELISSA NIX: So, the property that's allowing her to break this apart, and multiply this in one piece, and this in another, is, on the count of three, called the one, two three ...

STUDENTS: Distributive property.

MELISSA NIX: Right on, that's, I thank you for knowing that. Heaven, thanks for your idea, that's awesome. Did anyone do it differently? Ethan, what'd you got for me?

STUDENT: Um, I did 15 time 3, which was 45.

MELISSA NIX: You did 15 times 3?

STUDENT: Yeah.

MELISSA NIX: Whoopsie, that color will not show up. 15 times 3, which is 45.

STUDENT: And then, I multiplied, like, the 45 by 4 [inaudible].

MELISSA NIX: And then you multiplied your 45 by 4.

STUDENT: Which was 180.

MELISSA NIX: Which was 180. And how did you know, two questions, how did you know, one, that 45 times 4 was 180?

STUDENT: Um, because 45 plu-, times 2, is 90.

MELISSA NIX: And 90 and 90 got you your 180. But why 4?

STUDENT: Because 3 times 4 is 12.

MELISSA NIX: Because 3 times 4 is 12.

STUDENT: Right.

MELISSA NIX: Is there anybody else who can explain what Ethan's thinking there? So he said he did 15 times 3, and he got 45, and then he took that product and took it times 4. And I asked him, "Why 4?" And he said, "Because 3 times 4 is 12." Does that make sense to anyone? Makenna, what are you thinking?

STUDENT: Um, so, 15 times 3 equals 45, meaning that 45 is the -- like, 15 times 3, 45, are the same thing. So, it would've been like doing 15 times 3 in parentheses, and then having the 4.

MELISSA NIX: Maybe like that?

STUDENT: Yeah. And then that would equal 180. And the 3 times the 4 equal the 12 in the original problem.

MELISSA NIX: Interesting, thank you. Does that capture your thinking, Ethan?

STUDENT: Yep.

MELISSA NIX: Okay.