Determining What Students Are Thinking— Part 1

ALEXANDER: We decided why we have to put it on one, because that's our y-intercept.

JORDYN: Because in our equation, we put 5x plus one.

ALEXANDER: And so if you actually model it, it's your one.

NEVAEH: Wait, what was your equation again?

ALEXANDER: 5x plus one.

NEVAEH: OK.

ALEXANDER: So if you were to model it, you put the one toothpick and then you add five and then keep adding five and then keep adding five, because that's our slope. And we could use a six as our y-intercept, but that's for another equation. So both of them would be right. But with our equation, yeah, that would be wrong--

MATTHEW HARMON: Could you write that equation? You're saying that it's possible to start with six.

ALEXANDER: She had that equation.

MATTHEW HARMON: Oh, there it is.

JORDYN: I have y equals plus five, parentheses, x minus one.

MATTHEW HARMON: OK. So starting value for this one is what?

JORDYN: Six.

MATTHEW HARMON: Six. OK. So there's two possible ways of two different starting values, right? What's consistent in both equations on this?

ALEXANDER: The slope.

MATTHEW HARMON: The slope, or the rate of change, is the same. And so, yeah. Maybe, I don't know, could you draw both graphs?

ALEXANDER: Sure.

MATTHEW HARMON: You got one right there. See if you can draw the other one, OK?