**Mauricio Independent Events**

Mauricio: The last thing I’m going to expect you to be able to handle on our quiz Tuesday, the last bit of new material, and we’ve done it a little bit, so I want to formalize it, is dealing with successive events, things that have to happen a row, in succession, one after the other. So let’s say I am going to spin this spinner twice like Sami said. What is the probability that I spin a 1 and then another 1?

Student: 50/50.

Mauricio: How often should I expect to get a 1 two times in a row?

Student: Oh, wait. It’d be 25% and then 25%.

Mauricio: Talk to me, talk to me about your thinking, Chai.

Chai: Because it doesn’t matter. Like if you spin a 1 and then like you spin another 1, like what you get first doesn’t matter, it’s still just spinning it. It’s random.

Mauricio: Okay, so what I hear him saying is that each spin is independent of the other. It doesn’t affect the next thing that happens. I agree with that, so…

Student: So it’d be 25% for both of them because it doesn’t matter what the first one was.

Mauricio: So it would be ¼ths of the time I should expect to get two in a row?

Student: Well, no.

Mauricio: Let me extend your thinking. According to that then, I should expect to get ten 1s in a row, ¼ of the time?

Student: Never mind.

Mauricio: Does that sound less believable?

Student: Yes.

Mauricio: He’s right about the independent. One spin does not depend on the other one.