**Marcus The Gum-Ball Problem**

Marcus: Okay. Let’s go to B. Maggie, what did you get for B?

Student: Mmmm, B.

Marcus: I’ll read the question first. “If there’s 36 gum balls in the machine, how many are purple? How many are yellow? How many are orange?”

Student: Three purple…

Marcus: Shhh! Quiet!

Student: I got stuck on it.

Marcus: You got stuck on that one.

Student: Can I do it?

Marcus: Okay, Nolan. Tell us how you got it.

Student: 3 purple, 6 orange…

Marcus: Hold on! How did you get the 3 purple.

Student: Okay, so. I got the 3 purple cause purple is 1/12 and so 12 + 12 + 12 is 36, so I just multiplied the denominator and the numerator by 3, so it’s 3. And for 6, I just did the same thing with 2/12…

Student: You mean yellow.

Student: Um, yeah, and orange, and for yellow I just did the same thing for 9/12.

Marcus: Okay, did anybody else do it differently?

Student: Yellow was 2/12.

Student: Let me show you a simple way of doing it.

Student: It said the probability of getting a yellow (inaudible)

Marcus: You got the 1/12 for A, right Maggie.

Student: Um hmm.

Marcus: Okay. So, if you take that 1/12 and you say 1/12 of the 36, you can multiply because of means times. So, a simple way to do it is that way.

Student: Equals three!

Marcus: Okay? And when they ask you for yellow, you could do the same thing. 1/6 times the 36 and you get 6 by cross-multiplying. You divide the 6 into this, you get 1. You divide the 6 into that and you get 6. Okay? And then you do the other one the same way. The ¾ for the orange times 36 and you get 27.

Student: Yeah. I was minus then, ‘cause I knew 3 + 6 = 9.

Marcus: You could do that, too. That’s another way to do it. Once you know these two, you can subtract that from the 1, I mean the 36, and you’ll get what’s left. So, you can take the 3 plus the 6 and you’ll get 9. 9 from 36 is 27. Okay? Any questions?

Student: I have a question. Was I right?

Student: Yeah.