**Monique Beams and Staircases**

Monique: 4 feet long. How many beams did it take altogether?

Student: [inaudible] –

Monique: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15... okay? So that’s the first table, and you’re going to be making a graph, making a pattern of it. The second one that you want to do probably... maybe on the back of the graph paper, about half way down, you’re going to be making one for the other type of frame that they make, which is a staircase frame, and the staircase frames is the number of steps... and the number of rods ... Okay? So this is going to be the other table. This is part of Part B ... So the staircase one starts with a square, and the square takes up how many rods?

Student: 4?

Monique: 4.

Student: 4.

Monique: Okay. And so then we’re going to make it 2 steps, and I have to make it out of how many squares?

Student: [inaudible @ 32:50]

Monique: Two more squares to make... two steps, and how many rods does it take to make it?

Student: [inaudible]

Monique: Does everybody agree with Richard it’s 10?

Students: Yes.

Monique: Okay. So then if I wanted to add another step, how many squares would I need to add? I would add three squares... and how many rods would I add? 1, 2, 3, 4, 5, 6, 7, 8. Okay? So be very careful when you’re doing this particular one, because is it going at a constant rate? No. But it does have a pattern, okay? So for the remainder of class, I expect you to be working on this, and I’m going to come around as you get confused and make sure you’re getting the right idea. But basically what you’re doing is you’re completing the tables, you’re making a graph, you’re describing the patterns, you’re looking at how the patterns in the table, how the patterns in the graph, and how many steel rods would it need if it was 50 feet long and how do you know that. On the staircase you’re doing the same thing, making the graph, describing the pattern, how is it shown, and how many steel rods would be needed for 12 steps. Okay? All right. So... Questions that I can answer before... I turn this off? ... No, I don't know when the juniper will stop blooming. I don't know the answer to that question ...

[…]

Monique: And how’d you get 28? What’d you notice?

Student: Ah, [inaudible @ 36:25] like, right after 28, aum ...

Monique: Let me ask you in a different way: how are you able to complete the table without drawing the pictures? What did you notice?

Student: Ah, well, I just started counting [inaudible] more and more.

Monique: Okay, so you invisibly added some more.

Student: Yeah.

Monique: Okay. You just didn’t draw ’em.

Student: No.

Monique: [chuckles] Okay. Yeah?

Student: Um, for this one, which one would be, um, the independent and the dependent variables.

Monique: This one would be the... independent variable,

Student: Okay.

Monique: and the number of rods would be the dependent one, variable, because if I want a 50-foot-long lane that would drive how many rods there were ... What do you notice, Randy?

Randy: Hum?

Monique: What do you notice?

Randy: Ah, it increases by 2.

Monique: What do you mean, it increases by 2?

Randy: Well, like, one, like, how that one [inaudible] that one, it’s 8,

Monique: Um-hmm?

Randy: and that one [inaudible, noise] 10 and [inaudible]

Monique: So the difference between the rods was increasing by 2.

Randy: Yes.

Monique: Okay ...