Speaker Transcription

R3   So I got when you said … says that again …[the first way,] you seem to have so many ways of doing things that I get lost.

Ariel   [looking at R3]

R3   So if you have eight, what would you do? You divide the number in half …

Ariel   Eight, right?

R3   Yeah.

Ariel   I will take half of eight, that is four. I will make a ladder with four steps, I will count the rods and then I will multiply the number of rods by two and then from that answer that I got from multiplying the number of rods by two, I will subtract two.

R3   So you can do that for any number of steps?

Ariel   For numbers that do not have half, I will take the closest number and then do half and then subtract two and then add three.

R3   So like for nine, what would be the closest number?

Ariel   I will go to eight.

R3   Huh, huh.

Ariel   I will subtract … or I can go to ten if I wanted to or what ever is easier …

R3   Huh, huh.

Ariel   So I will go to eight, take half is four, count the rods, multiply by two, subtract two and then add three.

R3   Wow, can you write it out?

Ariel   Can't I just show you?

R3   No. [giving Ariel a piece of paper] But you also write it down what you are saying on a piece of paper. Write it up. So you seem to have two rules, one when you have a half, one you don't have a half. Right?

Ariel   Yeah.

R3   You said something. So can you write that out then we can keep talking about that.

James   How many numbers you are trying to get when you multiply by two.

Ariel   I got to leave at three-thirty.

James   [in the background] [inaudible]

R3   [to James] He is writing, he seems to have two ways of doing about it.

Description: Recording the procedures for ladders with odd and even numbers of steps Parent Tape: Early algebra, investigating linear functions, Series 5 of 7 Date: 2005-12-15 Location: Hubbard School Researcher: Professor Carolyn Maher	Transcriber(s): Baldev, Prashant Verifier(s): DeLeon, Christina Date Transcribed: Spring 2008 Page: 2 of 3

Ariel   [writing and saying aloud what he is writing: For odd numbers, I go to the nearest even number and take ½ of that even number, count the rods for a ladder with that many steps, multiply it by two, subtract two]... and add three. Now I will show you. Say nine, it is odd. I go to the even number eight. And take half of eight equals four. I would make a ladder of four [inaudible] [draws a ladder of four steps] and then I would count it [counts the rods in the ladder drawn] one, two, three, four, five, six, seven, eight, nine, ten, eleven, twelve, thirteen, fourteen. Then I multiply fourteen which is the number of rods times two [multiplies on the side] because four times two equals eight, gives me twenty eight and then I subtract two will give me twenty-six and then I would add three.

Ariel   [draws an additional step with three rods] Because for every new thingy it is three rods and it will give me twenty nine. I am the winner.

R3   That is for odd numbers, right?

Ariel   Yeah.

R3   And for even numbers, you want to write for even numbers?

Ariel   You just killed my …

R3   [gives Ariel a writing paper] You can write here.

Ariel   You killed my happiness.

R3   You write so well. Your handwriting is good.

James   [writing in his paper] … multiply by three to get your answer then subtract one.

Ariel   [writing in his paper and talking aloud] For even numbers, I take half of that number and make a ladder, oops I messed up, with that, I got a lot of homework now and I got to go to Karate, many steps. Then I multiply the number of rods of that ladder by two then I subtract two. That's it.

Ariel   Here it is... subtract by two. [writes 8] Eight. Half of eight. Wait a minute. I did this for the last one.

Ariel   [cancels 8 that he has written]

Ariel   [writes 6] Six.

Ariel   [writes ½ = 3] Half of six equals three.

Ariel   [draws a ladder with three steps and counts the rods in that ladder] One, two, three, four, five, six, seven, eight, nine, ten, eleven.

Ariel	[writes = 11 rods] That equals eleven rods.
Ariel	Times two is twenty-two.
R3	That's for how many rods?
Ariel	Huh?
R3	Go ahead, go ahead. Keep going.
Ariel	Minus two is twenty.
R3	That is for how many steps?
Ariel	Six.
R3	Is that right what we have done?
Ariel	[starts constructing a ladder and builds a ladder with five steps] I hope I am right. This is how many steps? [counts the steps in the ladder] One, two, three, four, five.
Ariel	[extends the ladder by one more step] Lets go. Who wants to be a millionaire?
R3	Is that six steps?
Ariel	[starts counting the rods by tapping with his pen] One, two, …
Ariel	[stops and counts the steps] One, two, three, four, five, six. Yeah, six steps.
Ariel	[starts counting the rods by tapping with his pen] One, two, three, four, five, six, seven, eight, nine, ten, eleven, twelve, thirteen, fourteen, fifteen, sixteen, seventeen, eighteen, nineteen, twenty
Ariel	[looks at James] Ooh, in your face.