Description: Clip 2 of 6: Finding the Y-value for twenty for problem 4 **Parent Tape: Early algebra: Investigating linear functions, Series 4 of 7: Guess My Rule problems 4 & 5** **Date: 2005-11-03** **Location: Frank J. Hubbard Middle School – Plainfield, NJ** **Researcher: Carolyn Maher**	**Transcriber(s): DeLeon, Christina** **Verifier(s): Yedman, Madeline** **Date Transcribed: Spring 2013** **Page: 1 of 4**

1	0:00	**R1**	Oh, okay. Maybe R2 could give you a challenge problem.
2		**Ariel**	Okay.
3		**R2**	I'm not sure they are done with that one yet.
4		**R1**	Oh, okay.
5		**Ariel**	I'm done.
6		**R1**	What is it?
7		**Ariel**	You add one to the y. It's a pattern. For every number you add one to what you're going to come out with.
8		**R3**	If I say twenty, what would the y be in that case? If I say twenty.
9		**Ariel**	(Ariel mumbles some numbers while calculating for twenty) It's thirty-eight.
10		**R1**	I don't think that, I don't think that's right.
11	0:31	**Ariel**	What? You want me to prove it? The ten is half of twenty, that'd be nine. Nine times two is eighteen. It would be adding the eighteen.
12		**R1**	Oh, that's good, that's good. I like that. So, oh! You would be adding the eighteen.
13		**Ariel**	It would be thirty-eight.
14		**R1**	Why are you adding twenty to eighteen?
15		**Ariel**	Huh? I'm not, No… Yeah, I'm adding eighteen to twenty. Cause of this pattern I saw that...
16		**R1**	It's going up by two, right?

17		**Ariel**	Yeah, it goes…
18		**R1**	Shouldn't you be adding the nineteen?
19		**R3**	But here it's not (inaudible) to get one, its like if you add zero…
20	1:07	**Ariel**	Exactly! Nineteen times two is thirty-eight.
21		**R3**	One plus zero, one. Two plus one, three. Three plus two, five.
22		**R1**	Four plus three, seven.
23		**R3**	So he's not seeing the difference this time.
24		**R1**	Could you give me a formula? Like they had before?
25		**Ariel**	That's the hard part. Well, that's like add one…
26		**R3**	Well, what's the answer for twenty? How much is for twenty?
27		**Ariel**	Huh?
28		**R3**	For twenty is how much?
29		**Ariel**	For twenty it's thirty-eight.
30		**R3**	Are you sure?
31	1:43	**Ariel**	Yes, cause ten times two is twenty. So you just got to multiply the things you did for this. And nine times two is eighteen and nineteen times two is thirty-eight and you get your answer.
32		**R3**	Really?
33		**Ariel**	Yeah, you get your answer.

34		**R3**	If you go on, would you get thirty-eight?
35		**Ariel**	Yeah. I would do it right now. [Begins to calculate all the values up to twenty on his paper in a table format. Video cuts to him at x=12] (inaudible) It's 23, 25, (saying and writing the y values) 27, 29, 31, 33. I'm getting closer. Thirty… No, it's, this is 35. I'm getting closer… Wait a minute. How the crap am I wrong? I did something wrong, I did something wrong cause I got to be right. I did something wrong, I think. Yeah, I did something wrong, I did something wrong.
36	2:53	**R3**	Is one of those answers wrong?
37		**Ariel**	I think.
38		**R3**	The ones that you just got? So, how did you get this thirty-eight again? You said ten, nineteen times two? How big is ten, twenty is two times ten.
39		**Ariel**	Yeah, nineteen times two is thirty-eight.
40		**R3**	So that's why you think that the number that goes with twenty is thirty-eight. Okay, but if you do this…
41		**Ariel**	I don't know why! [Ariel is trying to figure out where he made his mistake] Wait a minute, if you're coming from… I know, I just had it in my head. Okay, so if it's thirty-nine then it must have added twenty. So it's doing two, yeah! Exactly, cause it keeps on adding two, two, two, two (etc.). And ten times two equals twenty and here it was nineteen and it added twenty. This plus twenty equals 39, which is that right there (pointing to the paper).
42	4:02	**R3**	So, how did you get the answer?
43		**Ariel**	Ten, and you're going to have to go ten more numbers to get to twenty. Cause ten plus ten is twenty. So I did ten times

			two, cause it keeps on going up by two, to get you twenty. Then you add twenty to that nineteen and it get you thirty-nine.
44		**R3**	I don't understand how you got the nineteen. Okay, this nineteen here (pointing at the paper)?
45		**Ariel**	Yeah, this nineteen there (pointing at the ten on the paper). Cause it came out of the thing, nineteen.
46		**R3**	So you double this number? Twenty?
47		**Ariel**	Yeah, I doubled that… No, I didn't double that. What I did was, cause since you're going ten numbers down and it keeps on adding two every number. So ten down, times two is twenty. So when it would get to the twenty it would have to be thirty-nine, cause you are adding twenty to that (pointing to the paper). So its two, four, six, eight… two, four, six. Oh yeah, I got two, four, six, eight, ten, twelve, fourteen, sixteen, eighteen, twenty (counting on his fingers as well). And that's ten more numbers.
48	4:58	**R3**	So just add ten. Okay, that's nice, Okay.