Description: Ariel describing his 8th grade math class **Parent Tape: Early algebra: Investigating linear functions,** **Series 7 of 7: Ariel's 8th grade interview** **Date: 2007-05-017** **Location: Frank J. Hubbard Middle School – Plainfield, NJ** **Researcher: Carolyn Maher**	**Transcriber(s): DeLeon, Christina** **Verifier(s): Yedman, Madeline** **Date Transcribed: Spring 2009** **Page: 1 of 5**

1	0:00:00	**Teacher**	You talked a lot about slope and intercept and then using the x and y. Have you talked about some of these things in class?
2	0:00:07	**Ariel**	Mhm. That was the first thing we did this year, I believe… yeah
3		**teacher**	Oh really?
4	0:00:19	**Ariel**	Yeah. That's what we started out with. Now we are doing quadratic relationships not linear
5		**teacher**	Oh really, so you started out with linear.
6		**Ariel**	yeah we started out with linear, then we went on to quadratic and exponential. Yup.
7	0:00:29	**teacher**	So those are different types of equations.
8	0:00:30	**Ariel**	Yep, different types of equations, like an exponential one a quadratic will always have x squared in it, exponential always going to be x and then like it doesn't always have to be square it could be to the third power, the fourth power, fifth, sixth.
9	0:00:48	**teacher**	So it could go on?
10	0:00:50	**Ariel**	Yeah it could keep going
11		**teacher**	I see.
12		**Ariel**	Yup
13	0:00:53	**teacher**	Um what other kind of things do you do in class? Like what are some of the other activities that you do?
14		**Ariel**	Well a lot of algebra like this like dealing with equations

			right now that's what we've been doing the most like solving for x and different situations like that like for example in factoring too like if the equation is x squared plus 5x plus 5 then to factor it you know to get x squared you gotta multiply by x on both sides, so you get that out and then if you distribute you get x squared
15	0:01:34	**Teacher**	mhm..
16		**Ariel**	then plus say 4 and over here 1 and then those add out to each other wait this wouldn't work oh yeah that wouldn't work so make it five and 1 wait actually make it three and two actually still okay what's wrong here? Hold on because that doesn't work out right that equation is not right so lets just put x squared plus 9x and then plluu wait plus 6x that would be better and then plus so then its x+3, x+3 and you distribute it probably so you x distributed into x you get x squared
17		**teacher**	mhmm
18		**Ariel**	then you gonna distribute the x into 3 you get 3 x. and then you distribute this 3 into x you get another 3x so you combine like terms you come out 6x
19	0:02:50	**teacher**	mhmm
20			and then 3 times 3 you get your 9
21		**teacher**	mhm
22	0:02:54	**Ariel**	Like that's what we're doing right now. And yesterday like I said we were doing uhh about 6x minus 2 and then over like 7 maybe and then its equal to maybe 7x plus 2 and then over 8 and then what you do is multiply the both sides.. 6x-3 and then its be 7 and 7x plus 2 and then you just multiply and you get your 48 minus, 48x minus 16 is equal to 49x plus 14 and then you basically, let me do it over here.. didn't have

			space down there.. (mumbling) so then you have to solve for x now you get rid of this negative first so you add 16 on both sides to cancel that out you get 48x equal to 49. Yeah this ones not working out either
23		**Teacher**	(laughs)
24	0:04:37	**Ariel**	they don't always work out like you could do the wrong thing like you cant just make up a equation that's basically what you come out with then you solve for x. Yeah and so and what else did we do?
25		**teacher**	hmm
26			and the other day an engineer came in from new Hampshire I think it is and he taught us something about what he does like he's a traffic engineer and he taught us things like critical time rate. Like each light when to send each person how to manage time like each light is like a couple of seconds then it turns red. So that was interesting. And like I was saying today we are going to start a new unit so, a new book and Mr. Danes, which you probably met him he's going to come into out class and teach us a lesson about what's going to be in the new unit.
27		**Teacher**	The new book? hmm
28		**Ariel**	mhm
29		**Teacher**	How would you compare what your doing now in class to the some of the things that your doing in IML?
30	0:05:42	**Ariel**	Well it definitely helped like in a way without me knowing it that was like an introduction to equations and to like proportions and things like that we are doing now like this like uh x over
31		**teacher**	You have more paper there if you run out…

32	0:06:00		Oh like x over 100 then its equal to say 50 over 2, then you just do 100 times you cross multiply it's 100 times 2 then is equal to 200 then you divide over divided by 50 you'd get 4 so then it'd be 4 over 100. Without knowing it like the pizza problem like the fair things like what would be fair cuts or portions and also with the dice
33	0:06:40	**Teacher**	Mhmm..
34	0:06:42	**Ariel**	say it was 1 out of 3 number, three even numbers and then there's three odd numbers. Say x over 3 then it would be 3 times 1 and then divide by 3 , 1 over 3 you'd get almost fair chances if you were doing odds and evens.. but then say if one person gets 1,2,3,4 .. 4 out of the 6 numbers and one person gets 2 out of the 6 numbers ..
35		**teacher**	mhmm..
36	0:07:13	**ariel**	then it wouldn't be fair.. like you would cross multiply wait this is supposed to be x my bad, this is supposed to be x okay then 6 times 2 is 12 and divided by 6 equals and then that'd be equal too
37			mhmm
38	0:07:31	**Ariel**	And then say was I don't know 6 dice you get 4 out of 6 yeah you get 4 out of 6 my bad, is equal to x over 6 and then you multiply and get the same thing all over again. Wait 2.. yeah so it shows the even and even numbers between the two
39	0:7:57	**teacher**	mhmm
40	0:7:58	**Ariel**	Yeah, the different proportions you could make…yeah and then like with the rods like that taught like equations like in the video like all that work then once I started learning more..
41			mhmm

42	0:8:25	**Ariel**	school started getting easy to make an equation..
43		**teacher**	mhmm
44	0:08:29	**Ariel**	then you just sub in numbers from your problem and you get it like right here. You see I was adding two everywhere so you know its going to be in your equation somehow because that's like your increase and then plus 1 like your start out rate you know that's going to be in there also so.
45	0:08:56	**teacher**	Hmmm..thats interesting, okay well thank you very much for taking the time out I know I took you out of class
46		**Ariel**	haha
47	0:09:04	**teacher**	but uh thank you for taking the time out for talking to us, and to show me some of your work..
48		**Ariel**	alright
49	0:09:10	**teacher**	And good luck in high school
50	0:09:12	**Ariel**	Okay, thank you