Description: Ariel begins problem 4<br>Parent Tape: Early algebra: Investigating linear functions,<br>Series 4 of 7: Guess My Rule problems 4 \& 5<br>Date: 2005-11-03<br>Location: Frank J. Hubbard Middle School - Plainfield, NJ<br>Researcher: Carolyn Maher

| Line | Time | Speaker | Words Spoken |
| :---: | :--- | :--- | :--- |
| 1 | $00: 00$ | R1 | James and Ariel, come here. I have got another challenge for <br> you |
| 2 |  | Ariel | Oh, that's easy. I got it, I got it. No, I don't. [Ariel works on the <br> problem] Ohhhh I got it. It goes... add one. [Ariel writes <br> something on his paper] I got it, but I don't know how to <br> explain it. It's add one. Negative one goes to one, makes that. <br> You add in one, wait a minute, no, no, oh yeah. Negative one <br> is zero. This is one, this two, this is three, this is four (noting <br> the difference between the y values). $0,1,2,3,4$. [Ariel writes <br> these numbers in between the y values] I'm done. Wait, um <br> Miss? I'm done. |
| 3 | $01: 13$ | R1 | Ariel |
| 4 |  | R1What's the rule? <br> 5 | Ariel | | It's going to keep on adding one to the y-axis thing. |
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| 6 |
| 7 |

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| 19 |  | R1 | I say one, what are you going to say? |
| :---: | :---: | :---: | :---: |
| 20 |  | Ariel | One, (inaudible). |
| 21 |  | R1 | Two, what do you say? |
| 22 |  | Ariel | Three. |
| 23 |  | R1 | I say three, what do you say? |
| 24 |  | Ariel | Five. |
| 25 |  | R1 | Five. So what is the rule? |
| 26 |  | Ariel | And I noticed a pattern, I noticed the pattern too. It go, plus two, plus two, plus two. What? [Ariel gets distracted by another person calling him] |
| 27 |  | R1 | So, I get two to the number that I give you? |
| 28 |  | Ariel | To the number that you give me, like depending on the number. Like with starting out with one you add zero. Two, you add one. Three, you add two. Four, you add three. Five, you add four. [Ariel says this while pointing at his paper] I'm right, you're wrong. What is you doing, James? You haven't even solved it all. |
| 29 | 03:24 | James | I already know it. |
| 30 |  | Ariel | No, you don't. |
| 31 |  | James | Plus five times one, I mean, plus five minus one. |
| 32 |  | Ariel | The rule is plus four minus one. No, it's not. It's plus three minus one. No, it's not. I got it. I don't really know how to say it, like how I did the other ones. I know it's add one to the y . [Ariel points to the $y$ column of the chart] |
| 33 |  | R1 | Negative one... Why did you write this zero next to one? [R1 points to the $y$ value of 1] |
| 34 |  | Ariel | Cause, it went in like... I see it as a factory, this line. [Ariel points to the column line dividing the $x$ and $y$ columns] It goes in an $x$ number, it comes out a y number. 1 came out still 1 so it must be it didn't do anything to it, so its 0 . |
| 35 | 04:13 | R1 | Okay, so in this case, to this number, you didn't add anything. Okay. |
| 36 |  | Ariel | Yeah. So, 2 went in and came out 3 , is 1.3 went in and its 2 , cause it came out 5. It's adding, I just added these and I saw that that's how its going. Like here... [Ariel begins to write the differences between the $y$ values for his chart that weren't filled out before] This is: 5, 6, 7, 8, 9. There you go. |

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| 37 |  | R1 | And here, its zero? What did you get for zero? [R1 points to <br> Ariel's paper] |
| :--- | :--- | :--- | :--- |
| 38 |  | Ariel | That, I still haven't figured out. I think it's zero plus negative <br> one. Negative one. |
| 39 |  | R1 | Zero plus negative one. |
| 40 |  | Ariel | Yeah, it's negative one. That's what I think, I'm not really sure <br> about that. |
| 41 | $05: 14$ | R1 | Okay, so you said that the rule is? |
| 42 |  | R1 | Add one to the y. I mean to the number, for like for how the <br> number goes up you add one to what you're adding to. So, <br> basically to the y. |
| 43 |  | R1 | Add one, the rule would be add one to the y. <br> 44 <br> To the y. So, for every number... [Ariel is writing this on his <br> paper] |
| 45 |  | Yriel | What is the number that you are given first? |
| 46 | Oh, yeah. The funny thing is that I solved it right away. Ask |  |  |
| him. I solved it like in two seconds. |  |  |  |

