

Description: Brandon working on James' Guess My Rule problem Parent Tape: Early algebra: Investigating linear functions, Series 3 of 7: Graphing and sharing Guess My Rule problems, Clip 7 of 7 Date: 2005-11-03 Location: Frank J. Hubbard Middle School – Plainfield, NJ Researcher: Carolyn Maher	Transcriber(s): Yedman, Madeline Verifier(s): Tripathy, Sadhwvi Date Transcribed: Spring 2009 Page: 1 of 6
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Time	Speaker	Transcription
0:00		This is a guess my rule that everybody has to work on next. I would like you to come up with a rule for this, go ahead and draw yourself a graph for that even if you'd like.
	Brandon	I think I got it
	R1	This is a rule I want you to try, if you think you got it write it down on a sheet of paper for me and be prepared to show me that it works. James and Ariel come here I've got another challenge for you.
	Ariel	Oh, it easy.
	James	<i>Talking to Brandon about his problem.</i> Zero plus one, plus three?
	Brandon	No, not like that. I know how the rules go. Plus one on the X axis and plus three on the y axis.
	Ariel	James come on
	James	<i>to Brandon:</i> no.
	Brandon	That what it look like
	James:	No, too bad
	Brandon	<i>inaudible</i> Plus one on the x axis, plus three on the y axis ain't that true? Can't that be true? Yo pay attention to me while I'm speaking to you.
	R2	Is it a challenge? Or is it easy to do?
	Brandon	James and them cheated. They talk about it not plus one plus three. Look, can't this be true though Mrs. Patrick. Plus one on the x axis. Plus one on the x axis, plus three on the y axis. Can't that be true? Tell me.
	R2	Is that what you're noticing? Is that the trend you are noticing?
	Brandon	That's what I'm noticing, but they said that's not it, so I'm trying to find out what it is.
	R2	So you're noticing it's going plus one this way (pointing to x axis) on this side is that what you're saying?
	Brandon	Yeah
	R2	And what's going on, on this side?
	Brandon	Yeah, plus three.
	R2	So what's the relationship between this and this?
	Brandon	What you mean?
	R2	Like if you found a relationship going down on both sides, what do you think the relationship between this column and that column? Is there any trend there?
1:54	Brandon	So then I got to find for what? The eighteen?

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R2 I'm not telling you what to find I'm just asking you since you found a trend this way found a trend the other way what do you think about that way.

R3 I mean the trends you found are correct is it going down by one, this is going up by three.

R4 Okay I have a question, didn't that rule help you. Suppose x was six

Brandon Yeah then twenty-seven.

R4 Yes how we get twenty-seven.

Brandon Excuse me?

R4 How we get twenty-seven?

Brandon Because twenty-four plus three equals twenty-seven.

R4 Okay, and if x is hundred.

Brandon I don't know

R4 So do you think your rule should work for all values of x? you think so?

Brandon uh, excuse me?

R4 I mean if x is six then you say y is twenty-seven right?

Brandon Yeah

R4 Okay and if x is seven?

Brandon It would be thirty

R4 And if x is twenty?

Brandon I don't know. Can't go that high! I can't go that high until I got to work my way up there.

R2 Okay, but I mean Dr. Weber is absolutely correct, you are finding a trend there going down. But do you think that there's any trends...

R3 It's not that you're wrong, it's just that you're not really doing what is being asked. Does that make sense?

Brandon mhmm

R3 We're not looking for the trends going down like this, or the trends going down like that. What we're looking for is sort of an equation. If I know what x is, you've got to tell me what y is. In and out. Yeah, so if I tell you x is fifteen, how can I find what y is?

Brandon I don't know

3:36 R3 Maybe we can look at the last rule they found

Brandon It said multiply by two, add by one.

R3 That is what they did last time but would that work here?

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Brandon I was gunna say look, they say multiply by two add by one then they only talking bout that one side. I don't get it

R3 Oh, can we, maybe we can bring up what they had last time. Lets take a look at this. They multiplied by two and add by one that always works right?

Brandon That's only for this side though.

R3 No, no no no no. What do you think this means? (Points to equation x^2+1) Lets look at this one. Two Five. They multiply x by two. What's two times two

Brandon Four

R3 And then they added one, what's four plus one?

Brandon Oh right! I get it!

R3 Wait does that work for this one? Three plus three

Brandon uhh huh

R3 Plus one

Brandon Yeah, that works

R3 Five plus five, plus one.

R2 So now if we told you one hundred what would you get? Or if we told you twenty that was the first one.

R3 Yeah what would twenty?

Brandon two hundred and one. No wait...

R2 For one hundred it would be

R3 Yeah good.

R2 What about twenty?

Brandon ummm, forty-one

R3 Good good!

R2 So now you understand that you need to find a rule that works without you having to keep

R3 Maybe you could try that for this one?

R2 Because yours works if you know the one before. If you don't know the one before...

5:15 Brandon *doing work on paper*

R3 Thinking about this one now?

Brandon Mhmm

R1 How you doing Brandon?

Brandon Bad.

R1 What's the problem?

Brandon I don't know the problem.

R1 Are you staring at this one up here still?

Brandon Yeah, trying to find the answer.

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R1 Tell me what you notice so far.
 Brandon That you have to multiply by something on the sides. You have to multiply it from the x side and then add it on the rest of them. Something like that.
 R1 Okay. Have you tried anything yet?
 Brandon Yeah
 R1 What are you trying?
 Brandon Multiplying by three
 R1 Okay. Did you find something that worked there?
 Brandon Yeah, so far.
 R1 What did you do?
 Brandon I did you multiply three by one and add nine. And the three by zero and add nine. No, that doesn't work.
 R1 Which one doesn't work?
 Brandon The three by zero.
 R1 What's three times zero?
 Brandon Zero and then add nine.
 R1 That works.
 Brandon Oh, I'm thinking I had to get twelve. Okay if that works, two by three, six. Six plus nine is wait, yeah, no. Fifteen or fourteen? No, it's fifteen. And that works. Um, three times three equals nine, equals eighteen. Four times three equals twelve plus nine, yes that works too.
 R1 I think you're on to something here.
 Brandon And then five times three equals fifteen, yup, I found the answer
 7:51 R1 Okay so how would you tell me what to do?
 Brandon That you would have to multiply the x side by three and then add on the y side by nine. Do you get it?
 R1 No I don't get it, try it again.
 Brandon Okay, on the x side see how it has zero?
 R1 Yes
 Brandon You have to multiply zero by three
 R1 Okay, and I get zero
 Brandon Okay, then you have to add nine. See in the y side its nine.
 R1 Oh so what I did to the x side I add nine?
 Brandon Yes
 R1 Okay, you said add it to the y side before so I got confused. So for example, tell me if I am doing this right. So for five, you say I'd do five times three
 Brandon uh huh

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R1 And that's fifteen

Brandon Yeah

R1 And then do I add nine to fifteen or do I add nine to twenty-four?

Brandon Add nine to fifteen

R1 Add nine to fifteen, okay. And that equals twenty-four so that works. And you said it worked for all of them?

Brandon Yes

R1 How would we write that rule, how would we write it as a statement then? You're gonna write out that rule to tell every body else that your rule works. What would you write?

Brandon Multiply the x side

R1 Why don't you do that, actually write it on there.

Brandon WRITES: *Multiply the x axis by three and add nine to your answer for the y axis number*

R3 It's interesting, does this always work? Can you explain to me how that works with like four here?

Brandon Four times three equals twelve, plus nine equals twenty-one.

R3 Oh that always works

Brandon Yeah, it did when I did it.

R3 That's really interesting. That's good. Could you tell me if that if x is ten?

Brandon It is ten times three equals thirty, plus nine, thirty-nine.

R3 That's good.

R1 What did you end up writing down there for your rule?

Brandon Multiply the x axis by three and add nine. Add nine to your answer for the y axis.

R1 What do you mean by x axis?

Brandon Axis. Oh I would need one of those graph papers. Graph sheets, this here it is (gets a graphing paper transparency).

R1 Okay

Brandon These, write the dots. I mean the x axis. See the x axis right here?

R1 Okay, and where it that on your table over there? I'm just wondering where you're looking at the table. And then when I asked you what x axis was you show me your graph. So what does x axis mean in your table? You said multiply the x axis by three. So what are you telling me to multiply by three?

Brandon Multiply the numbers that are under x

R1 Okay

Brandon Or on the left side.

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R1 Okay, and over here they would fall and represent those on this axis is that what you're telling me?

Brandon Yes on the bottom and then up and down is on the y.