Elementary Mathematics Laboratory University of Michigan School of Education Tuesday, July 17, 2007

Seating Arrangement¹



Problem #1 on the board:



What fraction of the big rectangle is the blue region? What fraction of the big rectangle is the green region?

¹ Some names used are pseudonyms and, to the extent possible, match the actual linguistic and ethnic backgrounds represented by the names. They also accurately reflect the individual's gender.

1 2 3 4 5 6	Teacher:	I'd like to see some hands from people I haven't seen speaking in whole group yet today. Who thinks that they could explain their thinking for question one? Still waiting to see a few more hands. Lots of people have work done in their notebooks. Okay, Mamadou. What do you think about question one?
7	Mamadou:	Question one, I say it's one-half.
8	Teacher:	Okay. Can you explain how you came up with one-half?
9 10 11	Mamadou:	Because they both equal. They both equal, and one- half of it is shaded in and the other half is not. So that is
12 13 14 15 16 17 18 19	Teacher:	Okay. Can you come up to the board and point and show us what you're looking at? Just- there's a diagram right there. Can you come up and show? Did everyone hear what Mamadou said? You should be thinking already about his reason. Who can repeat what Mamadou said? Okay. Well if you're listening carefully, you should always be able to tell what someone just said. Dovan, what did he say?
20 21 22 23	Dovan:	He said he's looking at the squ- rectangle, and he's saying it's one-half of the rectangle, not just- He's just- He's not looking at the whole, he's just looking at the one part-
24 25	Teacher:	Wait, wait, wait, let him talk. Don't go on to explain it yet. Okay.
26	Dovan:	Oh.
27	Teacher:	Mamadou, go ahead. Do you want to use the big one?
28	Mamadou:	Half of the-
29 30 31 32	Teacher:	Just a second. Everyone should be looking up at where Mamadou is pointing, otherwise you won't understand his explanation. Shawn? This way. Look up there. Okay?
33 34	Mamadou:	They both equal, and half of it is shaded in. So that makes it one- one-half.

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35	Teacher:	Okay. So let's look at our working ideas about fractions	68	Students:	Yes.
36 37 38 39		that we were doing earlier today. Can someone say what- Or maybe you should say what are you calling the whole? When you're looking at the whole what are you looking at?	69 70 71 72	Teacher:	Yes. Now the question asks you something a little bit different. So who can tell everybody what question we're trying to answer? What Mamadou did is right, but he used something different to be the whole. Good job,
40	Mamadou:	The whole. The whole square. Can you put your finger around the part you're calling the whole? The whole.			Mamadou. Now pay attention to what the other question was that we're answering too, okay? You can go sit down. Thank you. Alright. So look at question one. Would somebody read it and say what are we supposed to interpret the whole to be from that question? How about Arial? Can you read question
41 42	Teacher:				
43	Mamadou:				
44	Teacher:	Okay. So, do you see where he just pointed?	78 79		one?
45	Students:	Yes.	80	Ariel:	What fraction of the big rectangle is shaded blue?
46 47	Teacher:	Okay. And where are the equal parts? Can you show us the equal parts?	81 82	Teacher:	Okay. And what do you think is meant by the big rectangle?
48	Mamadou:	These two.	83	Ariel:	The whole rectangle?
49	Teacher:	Okay. And how many parts are shaded?		Teacher:	What whole rectangle? You wanna come up and show
50	Mamadou:	One.	85		us?
51	Teacher:	Okay. Raise your hand if you understand what Mamadou did. Who knows what Mamadou did to get his answer of one-half? I don't want to hear how you agree or disagree. I just want you to tell me what did	86	Ariel:	Yeah.
52 53			87	Teacher:	Mamadou, are you watching?
54			88	Ariel:	All this.
55		he do. Kalvin?	89	Teacher:	Okay. The whole big rectangle. Okay. So now I need
56 57	Kalvin:	 He just made the part where the blue part is shaded. He just used that rectangle as a whole. Okay. Let's draw it on here so we can keep our original picture. You used this to be the whole, right? Yes. Can everyone see this? Yes. And what did he do then, Kalvin? And then he had saw that one part was shaded and the other part wasn't so he 			someone to explain, if you look at the whole big rectangle as the whole- Okay, now we want to talk about all of this. The question asks, if you use the whole big rectangle to be the whole, how much is shaded blue? Mamadou, do you see the difference between the question you answered and this question?
58 59	Teacher:				
60	Mamadou:				
61	Teacher:			Mamadouu	Valuate the taile uncertained at a state whole causes
62	Students:			Tanabar	Out of the whole restangle. And you used what?
63	Teacher:			Marria dava	And I did half of the vestor ale
64 65	Kalvin:			Teacher:	You did a smaller part of the rectangle. Okay?
66	Teacher:	And are these two equal parts? So if Mamadou calls			

this the whole, is he right that that's one-half?

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