Description: Introduction to the museum problem **Parent Tape: Early algebra, investigating linear functions, Series 6 of 7** **Date: 2005-12-15** **Location: Hubbard School** **Researcher: Professor Carolyn Maher**	**Transcriber(s): Baldev, Prashant** **Verifier(s): DeLeon, Christina** **Date Transcribed: Spring 2008** **Page: 1 of 4**

R3 Ok, Let us switch gear, have a new one. Have you been to the museum?
Ariel Yeah.
R3 Do you like art, piece of art?
Ariel No.
R3 You don't? Anyway when you go sometimes … you have to pay something, right?
Ariel Yeah.
R3 So what do they call that, let's call that entrance fee, right?
Ariel That's fair.
R3 You pay a fee to go in and then what can you do in the museum?
Ariel You can look at the stuff.
R3 And then as you walk out, what else can you do?
Ariel I don't know.
R3 Do you go to the gift shop?
Ariel Oh, yeah, yeah, you go to the gift shop and oh, yeah you go to the gift shop and … that's it.
R3 And buy gifts, right?
Ariel Yeah.
R3 And you take home?
Ariel Yeah.
R3 And you spend some money, right?
Ariel Yeah.
R3 [hands over a sheet of paper to Ariel] So this is a problem I have for you. It is called the museum problem, why don't you read first.
Ariel [reads] In a museum, a gift shop is having craft sale. The entrance fee is two dollars. Once inside there is a special discount table where each craft piece costs three bucks. How could you represent the total amount that you spend if you would buy any number of craft pieces at the discount price? Meaning …
James How much money you would bring?
Ariel [continues to read] How would you represent the total amount that you would spend if you were to buy any number of …
James I would multiply by three.
R3 [talks to a member of the research staff and turns towards Ariel and points to another table] Would you mind if we do this problem like separate?
Ariel OK.
Ariel [gets up from his seat on goes to seat at the other table]

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James [continues to work at the same table]
Ariel [eats a cookie and holds another cookie in his hand]
Ariel [continues to work in the paper and has underlined the words 'total amount']
Ariel [writes 1 : 3 and then 10 : 30]
R3 [at the table with James] How would you … hmm?
R3 [hands a sheet of paper to James] Why don't you try this first?
R3 Is that the same? Maybe as in [inaudible]
James [looks at the paper that R3 handed to him] It is the same thing.
R3 Is it the same?
James They want to know how much money …
R3 Is that helpful to you?
James [reads] Let's see.
James Meaning the whole day?
R3 Hmm?
James Like when you come in and go out.
R3 Like you?
James Like when you go in and then you buy something and leave.
R3 Yeah, how much you spend?
James [mumbles as he writes] So that's 10, so it's got to be 10, CP for craft pieces, times 3 is the cost. And that's thirty dollars plus two for the entrance. That's thirty-two dollars.
R3 [with Ariel]
Ariel If you don't want a hundred items, say you want ninety-nine you subtract three, you got two hundred and ninety-seven.
R3 So you are saying if you buy ten items, right?
Ariel [nods]
R3 Then you spend how much money?
Ariel Ten items, thirty dollars.
R3 Thirty dollars. So you go into the museum, you spend some time there and then you buy ten items and when you come out, you look at your bill, you say it is going to be thirty dollars?
Ariel No, I say thirty-two.
R3 Why thirty-two?
Ariel The entrance fee … [inaudible]
[There is an announcement over the PA system.]
R3 [pointing to the paper] So what is this times ten then? If you buy ten …
Ariel Three hundred and twenty.
R3 How much you are going to spend then?

Ariel Three hundred and twenty dollars.

R3 Three hundred and twenty dollars. So if you don't buy anything how much you are going to spend?

Ariel If you don't buy anything, you only waste two dollars.

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