

Lesson Part 1b

MIA BULJAN: Who has, who wants to tell us their way that they did it? Can I get a boy? Angel.

STUDENT: Umm...

MIA BULJAN: Which answer are you defending first of all?

STUDENT: 56.

MIA BULJAN: 56. Okay. So Angel, how did you get 56?

STUDENT: Because...I just put the fourteens together like double.

MIA BULJAN: Okay. So what did you do? You did...

STUDENT: 14.

MIA BULJAN: And...

STUDENT: Plus 14.

MIA BULJAN: So this was one double and what was your answer? Rogelio, I'm going to ask you to stop that sweetheart.

STUDENT: 28.

MIA BULJAN: All right.

STUDENT: I did solve the other fourteens, there was like 3 more left so I took up the other one and then I did the same thing with the other ones.

MIA BULJAN: So if we're looking at Marlene's picture to help us understand his way, here are the two 14s that he put together. How many fourteens does he have left?

STUDENTS: Three.

MIA BULJAN: Three. So he thought if I didn't have this one what would he have here?

STUDENT: Two.

MIA BULJAN: Two 14's. He could double 14 again and he would get how much?

STUDENT: 28.

MIA BULJAN: So he has a double double. And then what did you do Angel? Adil, stop.

STUDENT: Um, I put the 14s together...first I did it with the 28s. I got the two 10s.

MIA BULJAN: Okay. So you did, you wanted to put these together, so you thought of these two 10s. How much is that?

STUDENT: Uh, 20.

MIA BULJAN: Uh-huh. And then you thought of these two 10s. And what would that give you?

STUDENT: Um, 40.

MIA BULJAN: Okay. So this became 40 and then what happened?

STUDENT: The 8 I put together with the 40 and got 48.

MIA BULJAN: Okay. So now you put the 40 and the 8 together and got 48.

STUDENT: And with the other 8 I just took away the 6 and put 2 together and

STUDENT: I got the 56 and then...

MIA BULJAN: Why would he do that? He said inside of here I know there's a 2 and a 6. Why would he pick 2 and a 6? Hold on, hold on. I want you to think about the question. I think you have an idea but I want everyone to think about this question. 8 can be made lots of ways. It can be made with a 1 and a 7, and a 2 and a 6, and a 3 and a 5, and a 4 and a 4, but he didn't pick those ways, he only picked the 2 and the 6. Why would he do that? Why would this be helpful for him? Monique.

STUDENT: Because he might be, like adding it together to make another number, so he would make the 40 and the, and the, um, 8 to make 48, to make the 8 different.

MIA BULJAN: Make it different. And what did he do Rogelio, to make it different?

STUDENT: Um, for like the 48 into a 50.

MIA BULJAN: Ahh, he used this 2 to make it different into a 50, and that felt friendly, so all you had to do now was put your 50 and your 6 into 56. You guys do you see all the way he's breaking apart his numbers and putting them back together in ways that are easier and friendlier to deal with?

STUDENT: Yeah.

MIA BULJAN: $28 + 28$ feels hard to do in our heads but when we think of those 20's, double 20 is so easy.

STUDENT: 40.

MIA BULJAN: And then $40 + 8$ is so easy and adding another 8 doesn't feel easy. He didn't count on his fingers though. He could've. But he broke it apart to make it friendly. Uh-huh. Oh, hold on, hold on, hold on because he might not be done. So Angel, when you see this here do you feel like your problem is done?

STUDENT: No because I forgot the other 14.

MIA BULJAN: So this was his original answer. How many people think that this answer is correct?

STUDENT: No.

MIA BULJAN: You're all convinced that 70 is the right answer?

STUDENT: Yes.

MIA BULJAN: Marlene that was a very convincing argument. Good job. Okay. And now Angel says that as he explains this what did you notice Angel?

STUDENT: So like I forgot that there was like 5 and...

MIA BULJAN: Ahh, that there are 5 of them and you only have 1, 2, 3, 4. Four of them. So what else do you need to do?

STUDENT: So I just have another 14 and then I just remember that it's 70 because if you add the 10 with the 5 it will equal 15 and if you add like $6 + 4 = 10$.

MIA BULJAN: And you put that 60 and that 10 back together to get 70. You like that way?

STUDENT: Yeah.

MIA BULJAN: Okay. So your new answer, so you want to change this answer to 70. Does everyone understand what Angel did?

STUDENTS: Uh-huh.

MIA BULJAN: Do you understand how he made a mistake? He thought he did 4 double doubles and forgot that other 14.

STUDENT: Ms. B?

MIA BULJAN: Yep.

STUDENT: What is Angel's, um, name you would call?

MIA BULJAN: So Angel did something kind of interesting to me. He did...

STUDENT: Breaking apart?

MIA BULJAN: He used a lot of breaking apart. Didn't he use a lot of Marlene's decompose strategies? But he also did something called using a known fact. He didn't start counting from 1, he used what he knew. He knew the doubles, he knew the doubles, and then his job was to just keep track of how many times he had to put those together. So we call this using a known fact. Okay? All right, so who has one more way that we can do?

STUDENT: Ms. B.

MIA BULJAN: I know there are so many good ones.