**Mercedes: Integer Subtraction**

Mercedes: What are you doing? What is A asking?

Student: [Inaudible].

Mercedes: What does that mean? What is it asking? What do you think it’s asking?

Student: [Inaudible].

Mercedes: Well, what does that mean? 3 combinations of red and black chips, one of each color. What does that mean? What do you think it’s asking you, Brendan?

Brendan: [Inaudible].

Mercedes: Yes, it’s basically asking you to come up with number sentences, 3 different number sentences that you can illustrate using this that are going to equal zero and 3 that are going to equal positive 12, three that are going to equal negative 7, three that are going to equal negative 125. So what do you think? So 1 plus a negative 1 equals zero? Is that true?

Brendan: No.

Mercedes: You don’t think so? We have a 1 and if we add a negative 1, that means we have to add another one of these to cancel this out so we can still start with 1, right?

Brendan: No. But you – zero.

Mercedes: We want to go to zero.

Brendan: Yes.

Mercedes: But if you have a 1 – okay, here’s a different way of thinking of it. What’s another way of thinking of this? Convince him that you’re right.

Student: [Inaudible] a negative 1, right – positive 1 -- you take away and what do you get? So this is zero.

Mercedes: What he’s saying is that if he starts with a positive 1 but then he takes away 1, what do you have?

Brendan: [Inaudible].

Mercedes: Okay. So,

Mercedes: also what you can think about is what we’re talking about three days ago, opposites, remember we were talking about on the number line, opposites? And we said opposites do what to each other? These two are opposites, right? So if we put them together what do we do?

Brendan: They like cancel themselves.

Mercedes: They cancel each other out. So if we start with a negative 1, right, that’s negative 1, and we add 1, what have we done?

Student: Made a zero?

Mercedes: Made a zero. Same way if we went backwards. If we start with a positive 1 and we added a negative 1, what have we done? So is he right?

Student: Yes.

Mercedes: That’s one of them. Start writing?

Student: That’s how I got confused because negative 2 minus positive 2 is negative 4.

Mercedes: Yeah. But look, if we start with a negative 2 – you agree these are negatives, right?

Student: Yes.

Mercedes: And we want to subtract a positive 2 are there any positive 2s here to take away?

Student: No.

Mercedes: No, so what do we need to do to take away 2 blues. What do we need to do? We add 2 blues. But if we add 2 blues are we still starting with negative 2?

Student: No.

Mercedes: So what else do we have to add?

Student: 2 negatives.

Mercedes: 2 negatives, right?

Student: Yeah.

Mercedes: So now we’re starting with negative 2. But it says we’re going to take away positive 2.

Student: Oh.

Mercedes: Okay, so that’s one sentence. You can just write it in a number sentence; you don’t have to do red or blue. So just write one sentence. The first sentence you came up with is if we had a negative 1 and we add a positive 1 we get zero. What else can get us zero? Remember we have to use at least one of each color. So we can’t just say 1 minus 1, because that’s not using one of each. What if we say we started with negative 2, what would we have to add to this so that we can get zero?

Student: 2 blues.

Mercedes: Okay. Is that zero? What’s another sentence? Why do you have a 3? What do you notice about those two sentences?

Student: They keep canceling each other out

Mercedes: They keep canceling each other out. So you come up with another sentence and I’ll be back. Come up with another sentence, I’ll be right back.