

HILLARY LEWIS: So that's what we talked about last week. I think our visitors now have an idea of what we did last week. So now we're going to move on.

So do you remember also when I left I gave you a task where you had that grid and you had to place those three triangles and figure out where each of the triangles went? You remember that? So one of the triangles you had looked like this. And we had some of you -- before you say anything, I just want you to quietly look as I'm placing these. I'm going to place three of these. So I want you to think about where I'm placing them in three different boxes on this grid because we had different answers for where you thought this triangle went. Shh. Just silently, just think. You can think it as hard as you want, just don't let it come out your mouth right now. I'm going to place these three triangles on this grid, and I want you to think about that answer and what that student was thinking. What did they know about this triangle? And what did they maybe mix up or misunderstand about this triangle? Does that make sense? Do you have any questions?

So you're not going to talk for this part. You're just going to look at it and decide for yourself. You will talk in a minute, but we're going to be silent at first. And I know my triangles are too big for the boxes, but I think you get the idea. So what for each of those places, what did the student understand and what, if anything, did they get mixed up? Hang on, I'm not picking hands yet. All right, turn and talk to your partner about what you think they understood.

STUDENT: He got mixed up over there with those [inaudible] about the angle. See, he knows that there is a right angle so it goes there, but he got mixed up on the placement. [inaudible]

STUDENT: So I think what they mixed up is that they mixed up that scalene, all three sides are different. I think that's scalene. They are all right angles, but the problem is that they just put them in different things when they are supposed to go into one.

STUDENT: Yeah, because they all are like the same triangle.

STUDENT: I think that's what they are, but I don't ...

STUDENT: Yeah, but I think they are the same triangle though.

HILLARY LEWIS: What do you think about the placement of these triangles? So what I'm going to ask you when you respond, just talk about one triangle at a time. What do you think they understood? What do you think they misunderstood? And I haven't heard from [inaudible] yet. What do you think?

STUDENT: I think they got mixed up on the fact that the isosceles triangle should have one different side. Not all of them have to be different.

HILLARY LEWIS: Okay, so for isosceles, you're talking about this one?

STUDENT: Yeah.

HILLARY LEWIS: That they got mixed up -- say that one more time.

STUDENT: They got mixed up with the isosceles triangle. It should have only two sides that are the same and one side different, except what he thought or she thought was that they

were all different, that's what an isosceles triangle was.

HILLARY LEWIS: And they thought that they would -- all the sides were different, and it should be two sides are the same? Okay. Did you have -- I can't see your name tag. Marina, did you have something to add?

STUDENT: He didn't understand that they are right angle, but he did understand that it was an isosceles, so it's supposed to be scalene because all of the sides are different.

HILLARY LEWIS: Okay so Marina was saying that this student understood that there's a -- that it's a right triangle, but didn't understand which part?

STUDENT: That it wasn't isosceles.

HILLARY LEWIS: That it was isosceles or that it wasn't isosceles? I --

STUDENT: That it wasn't.

HILLARY LEWIS: Was not isosceles. Okay. What else? Juju?

STUDENT: They didn't understand that not all of them should be -- not all of the triangles should be in a different spot. Like the first one is in scalene, the other is isosceles, and the other is in equilateral. And they are all the same triangle.

HILLARY LEWIS: So you're saying that they didn't understand that it should be just in one place and they put it ...

STUDENT: Yeah.

HILLARY LEWIS: Okay. You know what, I did have some students from a different class who had put triangle one in three different places, but nobody in this -- this was actually three different students. But you are right, this is a misunderstanding that 4th graders commonly make, is they don't understand that it can only be one thing.

STUDENT: It shouldn't be an equilateral because none of the sides are equal. But all of them they are right, so it's placed correctly on right, but it's not placed correctly on the sides for isosceles and equilateral.

HILLARY LEWIS: Okay, so, it's correct that it's right, but it's not correct for isosceles and equilateral. We'll take one more comment. I know, Max, you've been dying so why don't you add one more thing.

STUDENT: So, I'm kind of saying what Tanay said. So, an equilateral has to have all sides equal. And that triangle, we can see that it doesn't have all sides equal because its bottom is way smaller than all of its other sides. So it can't be either equilateral or isosceles, because well, all of the sides are different, they are a different length. And isosceles has to have two sides the same length, and none of those are the same length. So it has to be scalene.

HILLARY LEWIS: And I've heard a number of you repeat that or say something similar that it has to be scalene. Is that right?

STUDENTS: Yes.

HILLARY LEWIS: So is this one the right one?

STUDENTS: Yes.

HILLARY LEWIS: So I'll take these two down. Does that make you feel better when I take the wrong ones down?

STUDENTS: Yes.

HILLARY LEWIS: Yeah. Okay. I'll just stick those there for now.