**Noel Right Angles**

SN: It has– I'm counting right angles, twenty-four.

Noel: Twenty-four right angles. Okay would you agree with that?

SS: No.

Noel: See if you can pick up one of your shapes just look, remember you’re just looking at one cube, okay? See if we can figure out how many right angles there are. There might even be a better way than counting–looking for a pattern.

Noel: Samuel.

SN: Twenty-four right angles.

Noel: You think-you would agree there is twenty-four, okay. Allen?

SN: I would agree that there was twenty-four and I found that out by since the definition of square is four right angles for the square so then all-

Noel: Uh-huh. Excuse me a minute, put your shapes down please.

SN: then all you then multiply four times the number of faces on the cube so that will equal six faces and then you multiply that together that equals 24 right angles.

Noel: Okay so you think you thought about it as being six faces and earlier today we looked up the definition and so now know the definition for square is four right angles and since there are six of those on the cube six times four would be twenty-four, okay. Jasper.

SN: I disagree because- because if you do it that way each face always one of the right angles will form another, one part of another square so it’s like you can’t count one layer or something, so you just have to count the top and the bottom so that four on the top and four on the bottom, so four times two is eight so I’m pretty sure it’s eight okay? Eight right angles.

Noel: Okay. Alex.

SN: I think it’s twelve because there are twelve edges and edges are ninety degrees.

Noel: Okay. Howard.

SN: There are twelve because like, on the cube… if you count four on one layer then that means like this one on another face would be used- is already used so you can’t count that, and Jasper forgot to count the sides so it- the sides are- is four so it’s twelve.

Noel: Okay.

SN: No, you overlapped it already.

Noel: John, thank you.

Noel: Okay, if I draw one square okay that would be the face of one of the sides of the cube. I’m going to draw another square attached to that now when you draw oops I didn’t do that very well. When you draw a three dimensional shape it has to be at an angle okay, but what I’m going to do is I’m going to take this square and I’m just going to flatten this square out so it’s the same as that, okay? Where is the right angle? Akshea?

SN: Well, um..

Noel: Come up here and…

SN: It’s right here, here, here, here, here, here, here, and here.

Noel: Okay so right there is one right angle, okay? On this side we have another right angle, another one and another one there, okay, so for a square it’s got four right angles, right? This square also has to have four right angles so on this side there’s the right angles, okay? So every square that’s on there has to have how many right angles?

SS: Four.

Noel: Four, so you want to re-think your statement?

SN: Yeah.