

Thursday Group Work

Part G:

CATHY HUMPHREYS: If you think you're ready and you have a watertight proof um, you can start your poster. Alright? Do you have any...let's see. You did your givens right? So what are the criteria for a square?

STUDENT: Perpendicular diagonals...

CATHY HUMPHREYS: Okay, what else?

STUDENT: The diagonals are congruent.

CATHY HUMPHREYS: Okay. Anything else?

STUDENT: They intersect at the midpoint.

CATHY HUMPHREYS: Okay, they intersect at the midpoint. Okay, good. How do you prove...so how would you...what do need in order to prove that it's a square?

STUDENT: That these two sides are parallel so we need to find the alternate interior angles.

CATHY HUMPHREYS: Okay, so you have to prove these two are parallel. What else do you have to prove for a square?

STUDENT: That this is ninety degrees.

CATHY HUMPHREYS: Okay and there's one other thing.

STUDENT: All the sides are congruent.

CATHY HUMPHREYS: All the sides are congruent. Okay, so you have three things to show. Make sure before you finish your prove that you show all three things okay?

STUDENT: Um, this line has to be bisected or yeah. Is that what you call it? This line has to be bisected?

CATHY HUMPHREYS: Uh-huh.

STUDENT: But this line is – can't be?

CATHY HUMPHREYS: Oh okay. Um, it isn't on there. What you would say is um, you could say exactly one diagonal is bisected.

STUDENT: So if the diagonals are not congruent and are perpendicular and exactly one is bisected then it is a kite?

CATHY HUMPHREYS: Uh-huh. Now I want to ask you a question. Could they be the same length?

STUDENT: Which one?

CATHY HUMPHREYS: Could the diagonals be the same length if it's a kite?

STUDENT: The diagonals can't be the same length. They can be the same length actually.

CATHY HUMPHREYS: Would you test that before you put that statement in?

STUDENT: No, we did test that. We said that the diagonals can be made from a long and a short stick or two long sticks. So I read that wrong.

CATHY HUMPHREYS: Okay. Alright. Good. Okay, so does everyone have something important to do? Alright. I wonder if people should...if you should kind of start your poster now. Like maybe somebody could start writing if the one you chose and all that.

STUDENT: So what's that rule if you line an angle, I mean a segment – two pair of segments that the same congruent segment? It's something...

STUDENT: Oh, is it the perpendicular thing?

STUDENT: No, it's the division property, I think.

STUDENT: Oh, division property...oh yeah, the division property!

STUDENT: No, no. Okay, just call it the division property.

STUDENT: Put six?

STUDENT: Not right now. We just have to find this.

STUDENT: Wait because step six... Do you want to write it out?

STUDENT: I'd rather write it out and not actually list. I guess we could just list it. But then you know what, she'll probably still make us write it all out. I mean still I'd rather get...

STUDENT: No, not there.

STUDENT: What?

STUDENT: Up there, they didn't (inaudible).

STUDENT: Just put the numbers?

STUDENT: Yeah.

STUDENT: Okay, then just put the numbers.

TEACHER: You know what you might say? That's correct up there but it's a little incomplete. If you would say...because all...because what are you trying to prove?

STUDENT: A rhombus.

TEACHER: But how do you know what a rhombus is?

STUDENT: Define what a rhombus is.

TEACHER: By the definition of a rhombus so...

STUDENT: So write the definition of a rhombus?

TEACHER: You say definition and then you might put in the step numbers that show it.

STUDENT: Okay.

TEACHER: The reason could be the definition of a rhombus.

STUDENT: Okay, cool.

STUDENT: These two sides have to be congruent...

CATHY HUMPHREYS: Okay, Rose, I'm going to interrupt you because you are telling me the definition of an isosceles trapezoid. What I'm asking you is what are the criteria for the diagonals? What's your...what's going to be your "if" statement?

STUDENT: If the two diagonals are the same length then they intercept um...

CATHY HUMPHREYS: Do you feel like you're on the spot? I'm sorry, I didn't mean to put you on the spot. I want to make sure everybody in your group is together on what are – what are the things that you need. What are the exact attributes you need for the diagonals in order to guarantee that it's an isosceles trapezoid; and what is the definition of an isosceles trapezoid? Those are two separate things you need. So stick together and Rose, you can demand your right to understand what they are talking about.