CATHY HUMPHREYS: I have to interrupt you. You are doing such a good job of (inaudible). What I want to do though is that I want us to have a model so we know what to do. And then you're going to get to choose whatever shape you want and try to prove it. So there are a couple of things before we start. This is another thing I learned from your tests. Um, on your tests there were um, there were several problems where the vertices were labeled and people would talk about angle C. So why might that be a problem? Why might that be a problem? Sage, why?

STUDENT: There is more than one angle C.

CATHY HUMPHREYS: How many angle C's are there?

STUDENT: Two.

CATHY HUMPHREYS: Are there?

STUDENT: There are three.

CATHY HUMPHREYS: There are three? Three? Okay, so here's an angle CDCA, ACB, and where is the third one?

STUDENT: BCB.

CATHY HUMPHREYS: Yes, exactly. So what you're going to need to do is be really clear about which angles you are talking about. Alright, um, so this table, five has volunteered to walk us through this. I think in order to…normally I would have you up here writing but in order to expedite the time so everyone has time to get started, I'm going to record for you. Now the rest of us are going to be sure we ask them a question if we don't understand. This is a very hard thing to do, really because if we don't understand something we think it's, it might be us. Like, we just don't get it and we're the only ones that don't get it and that happens a lot in math. But I want you to...so I'm going to have you stop periodically and talk about what the group has said and see if you agree with it. Alright. You know what, maybe I should have you come up and do it. You're as fast as I am. So who's…who wants to start? Drew, you're going to start?

STUDENT: This is B.

CATHY HUMPHREYS: Drew, I know it's hard to write with your back to the white board but can you try and do that.

STUDENT: I'll try. Um, so first is triangle CED and triangle AB. I didn't give myself enough space. AB, yeah and that's because of side, angle, side. Because you have this angle and this angle are congruent and then side one, angle one, side two; and side one, angle one, side two. So then you know that this angle and this angle are congruent. So you have angle - CPCTC.

CATHY HUMPHREYS: Would you read those out loud?

STUDENT: Which part out loud?

CATHY HUMPHREYS: Just say angle...

STUDENT: Angle DCE is congruent to angle BAE which I also marked on the parallelogram. And because of the CPCTC, which I prefer. And then um...because these two are congruent in other alternate interior angles if you use AC as the transversal for lines or segments – sides whatever, AB and DC. So AB is parallel to DC because of alternate interior angles. And you'll have triangle BEC congruent to triangle DEA and that's also because of side, angle, side. So it's side two, angle two, side one; and then over here is side two, angle two, side one. And then, you know because they're congruent, their corresponding parts are congruent to CPCTC again. So then you have angle EAD congruent to angle...oh no, I used a different one, oh well. I'll just remark it. Anyway, so it's CPCTC and then again because of alternate interior angles, you can use AC as a transversal for sides AD and BC. So you have AD parallel to BC through alternate interior angles.

STUDENT: Good job Drew!

CATHY HUMPHREYS: So what I would like you to do now is talk in your groups about the flow of logic through Drew's proof and see if there's anything missing. And so would you please talk over– what did you think he might be missing or is it perfect?

STUDENT: Do you think he did it in a longer way or how do you do it in a longer way? Does that mean you have to prove that every single triangle is congruent?

STUDENT: No, if you have both the parallel...as long as you have two pairs of parallel sides then it's a quadrilateral.

STUDENT: Didn't he label the angle wrong on number five?

STUDENT: Some of them aren't corresponding.

STUDENT: Actually shouldn't it be ECB not BCE; it should be like ECB.

STUDENT: We at least got the right concept.

STUDENT: Is there a shorter way to do that?

STUDENT: I don't think so. As long as you prove two triangles are congruent…I mean no.

STUDENT: You mean two pairs of parallel sides.

STUDENT: Yeah.

STUDENT: What if you...

STUDENT: It should be BAE huh?

STUDENT: What if you did prove triangle BCB and triangle BAD then can't you just do it in three steps?

STUDENT: That's what I thought you guys were doing at first.

STUDENT: Oh, I don't know.

STUDENT: But how would you prove it?

STUDENT: Don't you have to use the addition property to make sure that BE is congruent or DB is congruent to AC…wait a second.

STUDENT: DB is congruent to itself.

STUDENT: Wait, I'm looking at two. Wait, what triangle are you trying…?

STUDENT: BCB and DAB.

STUDENT: Oh I was looking at CAD and DBC and AEB.

STUDENT: Actually you couldn't do that because you wouldn't have a second side or a second angle.

CATHY HUMPHREYS: You can use the other two and I think that's what he did, didn't he? So he's okay. He used the same angle but he used the different sides of it?

STUDENT: He used the same transversal.

CATHY HUMPHREYS: I see! Yes, he used the same transversal.

STUDENT: It's just like our proof but ours is...

STUDENT: Really long?

STUDENT: Ours is really long.

STUDENT: We can prove it when we're talking in a paragraph but then when we are writing it down, it's like his because it's a lot shorter. Wait, Ms. Humphreys, Ms. Humphreys do you think if we do two columns we have to write like given, given, given like all that stuff? Wait, because - Ms. Humphreys if we do a two column do we have to write, do we have to write two sides are opposite and two sides are parallel...two opposites of parallel sides...do we have to write all that stuff?