Course: Geometry
Unit: Introduction to Proof
Section: Informal and Two Column Proofs

Avatar: Two Column Proofs

Slide 1:

Hi there! I'm going to show you a two column proof.

Slide 2:
Look at this picture. We are given that angle one is congruent to angle two, and we need to show that angle three is congruent to angle four. Formulate a plan first.

We're going to show that angle one is congruent to angle three and that angle two is congruent to angle four using vertical angles. Then, we'll show that angle three is congruent to angle four using the transitive property.

Slide 3:
We can now write a two-column proof.
We must always start with our given information.
We are given that angle one is congruent to angle two, so we state that on the first line.
Then, we need to state that angle one and angle three are vertical angles by the definition of vertical angles.
Now that we know they are vertical, we can say that angle one is congruent to angle three by the definition of vertical angles.
We will use the same process for angles two and four.
Since angle one is congruent to angle two and angle one is congruent to angle three, then angle two is congruent to angle three by the transitive property.
Applying the transitive property again, we can conclude that angle three is congruent to angle four.

We're finished! Good luck with the rest of your proofs. Come back and visit if you need me to explain this one again.