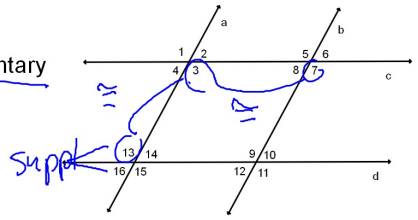
1. Given: a || b and c || d

Prove: ∠7 & ∠16 are supplementary



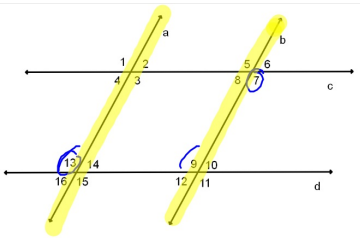
Start by planning it out

Statement	Reason
1. a || b and c || d	1. Given
2. ∠7 ≅ ∠3	2. Corr ∠s
3. ∠3 ≅ ∠13	3. Alt int ∠s
4. ∠13 suppl ∠16	4 Linear pair
5 ∠7 suppl ∠16	5 trans/subst.

2. Write a proof.

Given: c || d & ∠7 ≅ ∠13

Prove: a || b



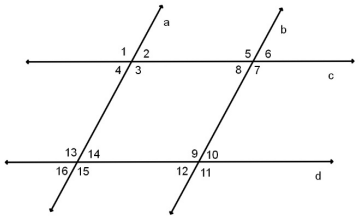
Start by planning it out.

Statement	Reason
1. c || d & ∠7 ≅ ∠13	1. Given
2. ∠7 ≅ ∠9	2. alt int ∠s
3. ∠9 ≅ ∠13	3. Subst
∠9 ≅ ∠3	
4 all b	4. b/c corr ∠s ≅

3. Write a proof.

Given: a || b and c || d

Prove: ∠4 ≅ ∠10



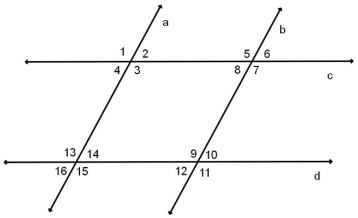
Start by planning it out.

Statement	Reason
1. a || b and c || d	1. Given

4. Write a proof.

Given: a || b and c || d

Prove: ∠3 ≅ ∠9



Start by planning it out.

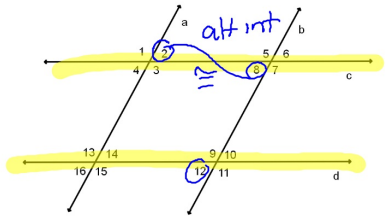
Statement	Reason
1. a || b and c || d	1. Given

5. Write a proof.

Given: a || b and ∠2 ≅ ∠12

Prove: c || d

Start by planning it out.

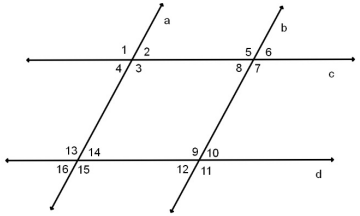


Statement	Reason
1. a || b and ∠2 ≅ ∠12	1. Given
2. ∠2 ≅ ∠8	2. alt int ∠s
3. ∠8 ≅ ∠12	3. Subst
4. c || d	4. corr ∠s ≅

6. Given: a || b and c || d

Prove: ∠8 & ∠15 are supplementary

Start by planning it out

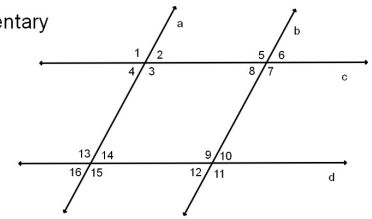


1. Statement	Reason
1. a || b and c || d	1. Given

7. Given: c || d and ∠1 & ∠12 are supplementary

Prove: a || b

Start by planning it out



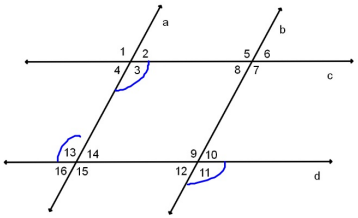
Statement	Reason
1. c || d and ∠1 & ∠12 are suppl	1. Given

8. Write a proof.

Given: c || d and ∠3 ≅ ∠11

Prove: a || b

Start by planning it out.

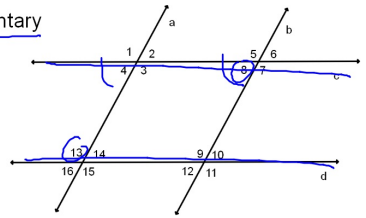


Statement	Reason
1. c || d and ∠3 ≅ ∠11	1. Given
2. ∠3 ≅ ∠13	2. Alt int
3. ∠13 ≅ ∠11	3. Subst
4. a || b	4. alt ext ∠s ≅

9. Given: a || b and ∠8 & ∠13 are supplementary

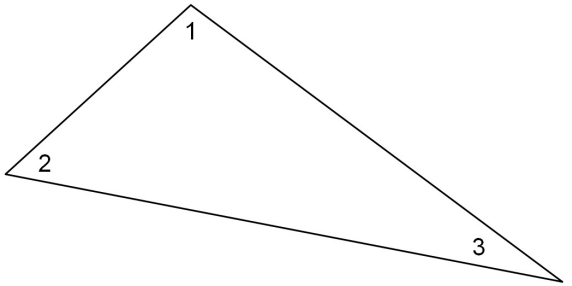
Prove: c || d

Start by planning it out

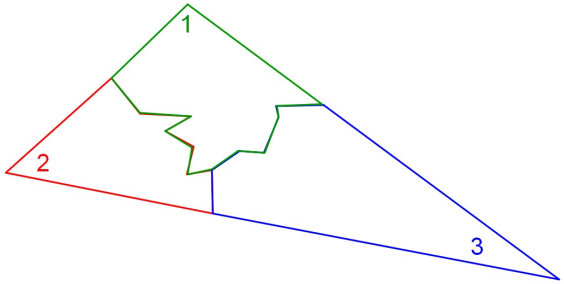


Statement	Reason
1. a || b and ∠8 & ∠13 are supplementary	1. Given
2. ∠8 ≅ ∠4	2. corr ∠s
3. ∠4 & ∠13 suppl	3. Substit
4. c || d	4. SSI

Draw a triangle and label the angles on the inside of the triangle with the numbers 1, 2, and 3



Tear the triangle into three pieces, each containing one of the vertices of the triangle.



This shows that the three interior angles of a triangle have a sum of 180°