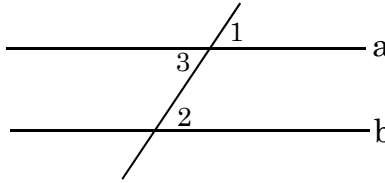


Prove the following theorems:

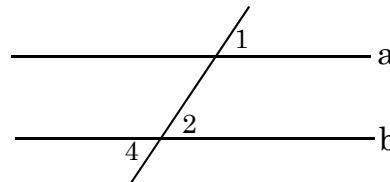
1. Given: $m\angle 2 = m\angle 3$
 Prove: $a \parallel b$



STATEMENTS	REASONS
1.	1.
2. $m\angle 1 = m\angle 3$	2.
3. $m\angle 1 = m\angle 2$	3.
4. $a \parallel b$	4. If corresponding angles are =, then lines are \parallel

Conclusion: If alternate interior angles are equal, then the lines are parallel.

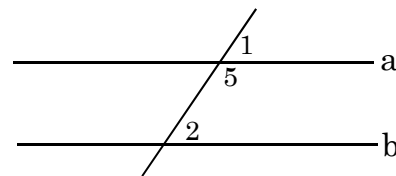
2. Given: $m\angle 1 = m\angle 4$
 Prove: $a \parallel b$



STATEMENTS	REASONS
1.	1.
2. $m\angle 2 = m\angle 4$	2.
3. $m\angle 1 = m\angle 2$	3.
4. $a \parallel b$	4.

Conclusion:

3. Given: $\angle 2$ and $\angle 5$ are supplementary
 Prove: $a \parallel b$

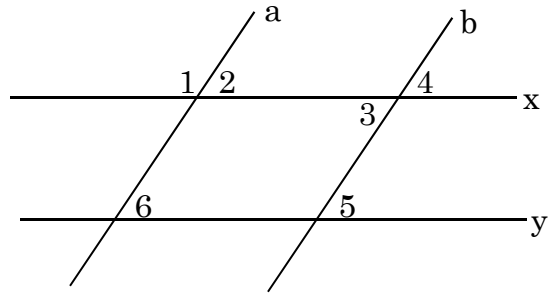


STATEMENTS	REASONS
1.	1.
2. $m\angle 2 + m\angle 5 = 180^\circ$	2.
3. $m\angle 1 + m\angle 5 = 180^\circ$	3.
4. $m\angle 1 + m\angle 5 = m\angle 2 + m\angle 5$	4.
5. $m\angle 1 = m\angle 2$	5.
6. $a \parallel b$	6.

Conclusion:

Given: $a \parallel b$, $m\angle 2 = m\angle 5$

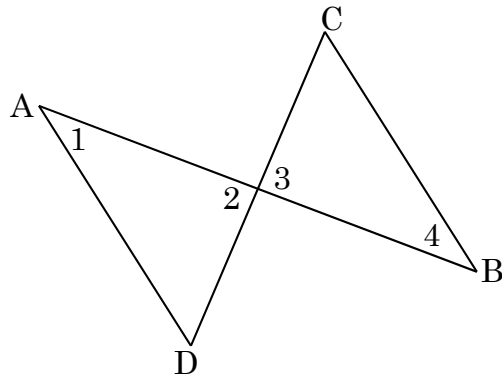
Prove: As many statements as you can using the numbered angles



STATEMENTS	REASONS
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.
6.	6.
7.	7.
8.	8.
9.	9.
10.	10.

1. Given: $m\angle 1 = m\angle 2$
 $m\angle 3 = m\angle 4$

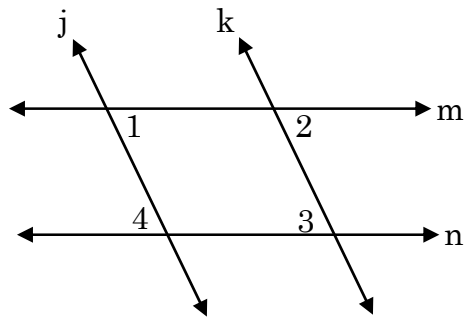
Prove: $\overline{AD} \parallel \overline{BC}$



STATEMENTS	REASONS
1.	1.
2. $m\angle 2 = m\angle 3$	2.
3. $m\angle 1 = m\angle 4$	3.
4. $\overline{AD} \parallel \overline{BC}$	4.

2. Given: $j \parallel k$
 $m\angle 1 = m\angle 3$

Prove: $m \parallel n$



STATEMENTS	REASONS
1.	1.
2.	2.
3.	3.
4.	4.