

Name: _____

Date: _____

BLOCK/PERIOD: _____

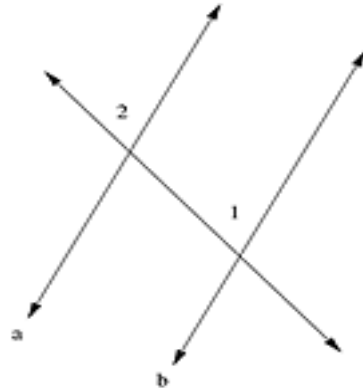
RECALL: Always Mark the given information on the diagram.

(This will help you decide what other information you can use for the proof. As you make new statements, mark them on the diagram.)

Complete the reasons in the following proofs.

Given: $m\angle 1 = m\angle 2$

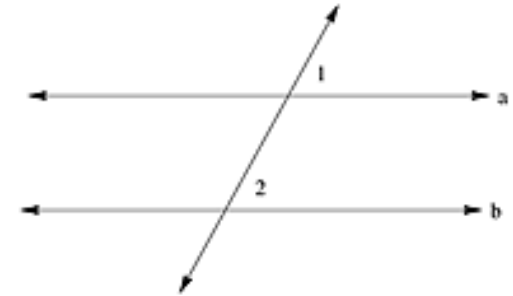
Prove: line a \parallel line b



Statements	Reasons
1. $m\angle 1 = m\angle 2$	1.
2. line a \parallel line b	2.

Given: line a \parallel line b

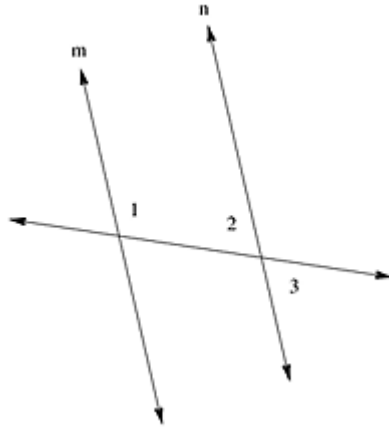
Prove: $m\angle 1 = m\angle 2$



Statements	Reasons
1. line a \parallel line b	1.
2. $m\angle 1 = m\angle 2$	2.

Given: $\angle 1$ and $\angle 3$ are supplementary

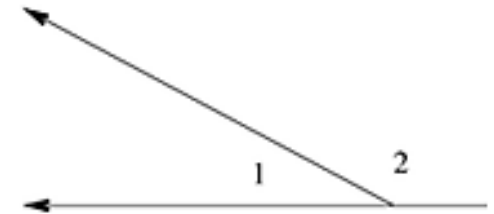
Prove: line $m \parallel$ line n



Statements	Reasons
1. $\angle 1$ and $\angle 3$ are supplementary	1.
2. $m\angle 1 + m\angle 3 = 180^\circ$	2.
3. $m\angle 2 = m\angle 3$	3.
4. $m\angle 1 + m\angle 2 = 180^\circ$	4.
5. $\angle 1$ and $\angle 2$ are supplementary	5.
6. line $m \parallel$ line n	6.

Given: $m\angle 1 = 35^\circ$

$m\angle 2 = 145^\circ$



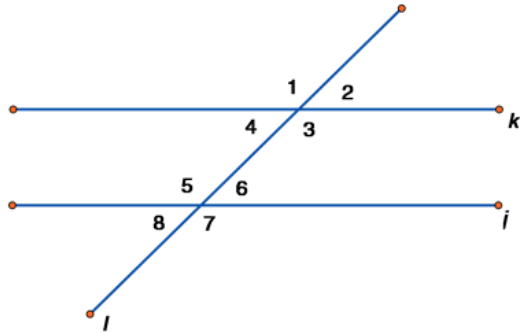
Prove: $\angle 1$ and $\angle 2$ are supplementary

Statements	Reasons
1. $m\angle 1 = 35^\circ$	1.
2. $m\angle 2 = 145^\circ$	2.
3. $m\angle 1 = m\angle 1$	3.
4. $m\angle 1 + m\angle 2 = m\angle 1 + m\angle 2$	4.
5. $m\angle 1 + m\angle 2 = 35^\circ + 145^\circ$ $m\angle 1 + m\angle 2 = 180^\circ$	5.
6. $\angle 1$ and $\angle 2$ are supplementary	6.

Given: line $k \parallel$ line i

line l is a transversal

Prove: $\angle 1 \cong \angle 7$

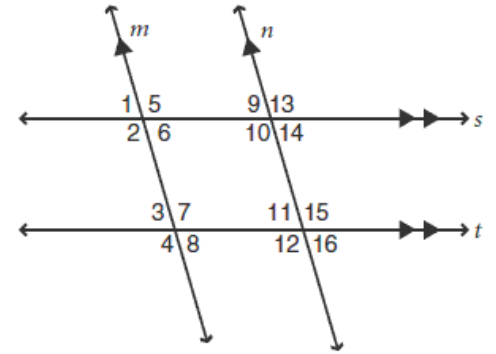


Statements	Reasons
1. line $k \parallel$ line i line l is a transversal	1.
2. $\angle 1 \cong \angle 5$	2.
3. $\angle 5 \cong \angle 7$	3.
4. $\angle 1 \cong \angle 7$	4.

Given: line $m \parallel$ line n

line $s \parallel$ line t

Prove: $\angle 1 \cong \angle 16$

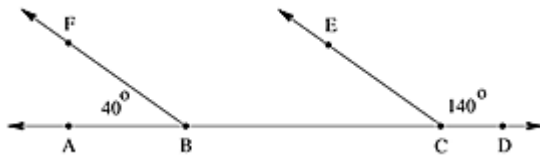


Statements	Reasons
1. line $m \parallel$ line n & line $s \parallel$ line t	1.
2. $\angle 1 \cong \angle 9$	2.
3. $\angle 9 \cong \angle 14$	3.
4. $\angle 14 \cong \angle 16$	4.
5. $\angle 1 \cong \angle 16$	5.

Given: *line ABCD*

$$m\angle ECD = 140^\circ$$

$$m\angle ABF = 40^\circ$$



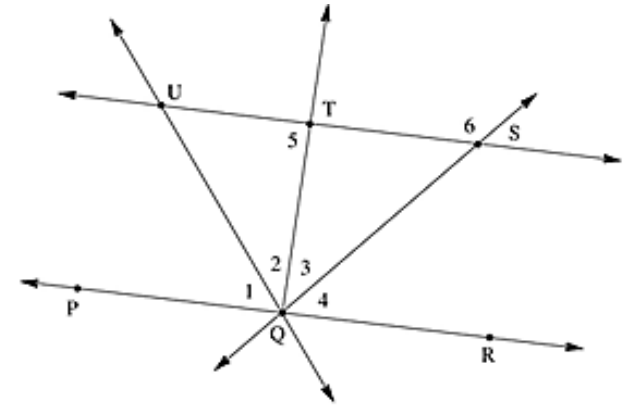
Prove: *line BF* \parallel *line CE*

Statements	Reasons
1. <i>line ABCD</i> $m\angle ECD = 140^\circ$ $m\angle ABF = 40^\circ$	1.
2. $m\angle ABC = 180^\circ$	2.
3. $m\angle ABC = m\angle ABF + m\angle FBC$	3.
4. $m\angle ABC = 40^\circ + m\angle FBC$	4.
5. $m\angle FBC = 40^\circ$	5.
6. <i>line BF</i> \parallel <i>line CE</i>	6.

Given: $m\angle 5 = 92^\circ$

$$m\angle 3 = m\angle 4$$

$$m\angle 4 = 46^\circ$$



Prove: *line UTS* \parallel *line PQR*

Statements	Reasons
1. $m\angle 5 = 92^\circ$ $m\angle 3 = m\angle 4$ $m\angle 4 = 46^\circ$	1.
2. $m\angle 3 = 46^\circ$	2.
3. $m\angle TQR = m\angle 3 + m\angle 4$	3.
4. $m\angle TQR = 46^\circ + 46^\circ$ $m\angle TQR = 92^\circ$	4.
5. <i>line UTS</i> \parallel <i>line PQR</i>	5.