

Warm Up

Give a reason for each statement.

1. if $m\angle 1 = 90^\circ$ and $m\angle 2 = 90^\circ$ then $m\angle 1 = m\angle 2$

Transitive

2. if $\overline{AB} \perp \overline{BC}$ then $\angle ABC$ is a right angle



Def. of Perpendicular

3. if $\overline{FG} \cong \overline{RS}$ then $FG = RS$

Def. of congruent

2-7 Proofs with Angle Pairs

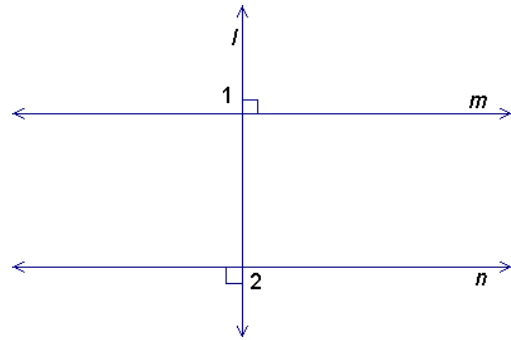
See yellow sheet - postulates 1-12

See pink sheets - theorems up to 2.6

Ex 1 Write a two column proof

Given: $l \perp m$

Prove: $l \perp n$
 $\angle 1 \cong \angle 2$

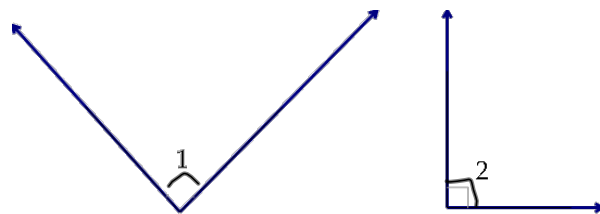


Statements	Reasons
$l \perp m$	Given
$l \perp n$	
$\angle 1$ is a rt. \angle $\angle 2$ is a rt. \angle	Def. of \perp
$\angle 1 \cong \angle 2$	Rt. $\angle \cong$ Thm.

Ex 2 Write a two column proof

Given: $\angle 1$ and $\angle 2$ are right angles

Prove: $\angle 1 \cong \angle 2$



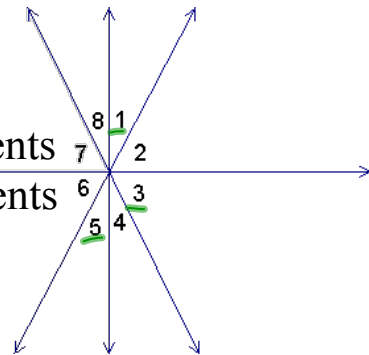
Statements	Reasons
$\angle 1$ + $\angle 2$ are rt. \angle 's	Given
$\angle 1 \cong \angle 2$	Rt. \angle 's \cong Thm.

Ex 3 Write a paragraph proof

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

$\angle 3$ and $\angle 5$ are complements

Prove: $\angle 1 \cong \angle 5$



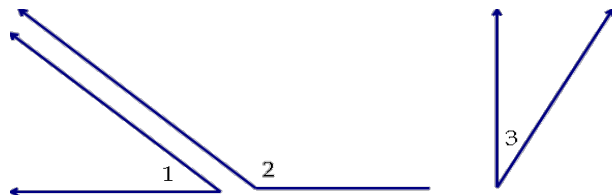
We're given $\angle 1 + \angle 3$ are complements and $\angle 3 + \angle 5$ are complements. Because of the \cong comp. thm., $\angle 1 \cong \angle 5$.

Ex 4 Write a paragraph proof

Given: $\angle 1$ and $\angle 2$ are supplements

$\angle 3$ and $\angle 2$ are supplements

Prove: $\angle 1 \cong \angle 3$

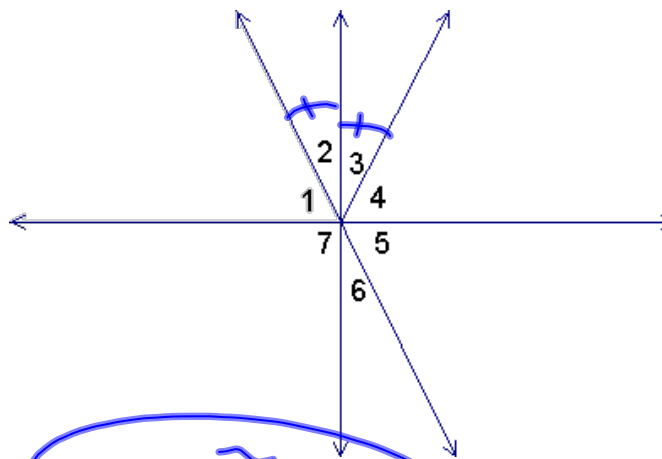


We're given $\angle 1 + \angle 2$ are supplementary and $\angle 3 + \angle 2$ are supplementary. Therefore $\angle 1 \cong \angle 3$ by the \cong supp. thm.

Ex 5 Write a flow proof

Given: $\angle 2 \cong \angle 3$

Prove: $\angle 3 \cong \angle 6$



$\angle 2 \cong \angle 3$
Given

$\angle 2 \cong \angle 6$
Vert. \angle 's \cong Thm.

$\angle 3 \cong \angle 6$
Transitive Prop