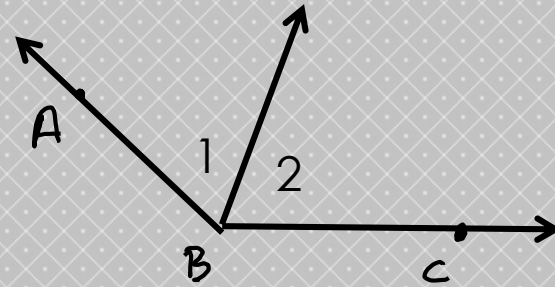


Chapter 2

Proof Practice

Given: $m\angle 1 = 25^\circ$ and $m\angle ABC = 105^\circ$

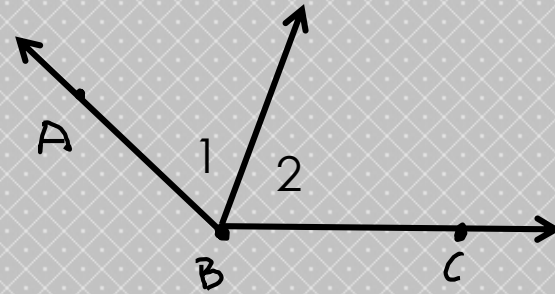
Prove: $m\angle 2 = 80^\circ$



Statements	Reasons

Given: $m\angle 1 = 25^\circ$ and $m\angle ABC = 105^\circ$

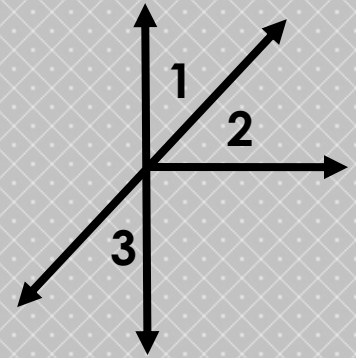
Prove: $m\angle 2 = 80^\circ$



Statements	Reasons
$m\angle 1 = 25^\circ$; $m\angle ABC = 105$	Given
$m\angle 1 + m\angle 2 = m\angle ABC$	Angle Addition Postulate
$25 + m\angle 2 = 105$	Substitution Property of =
$m\angle 2 = 80$	Subtraction Property of =

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

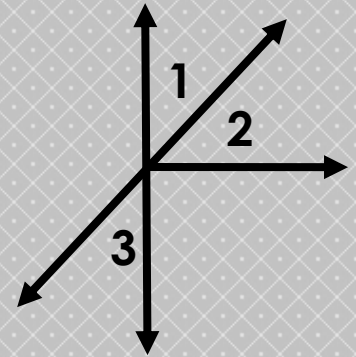
Prove: $\angle 2$ and $\angle 3$ are complementary



PROOF OF THEOREM 2-7-3

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

Prove: $\angle 2$ and $\angle 3$ are complementary



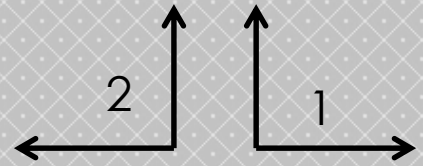
Statements	Reasons
$\angle 1$ and $\angle 2$ are complementary	Given
$m\angle 1 + m\angle 2 = 90$	Definition of complementary
$\angle 1 \cong \angle 3$	Vertical \angle s are \cong
$m\angle 1 = m\angle 3$	Definition of $\cong \angle$ s
$m\angle 3 + m\angle 2 = 90$	Substitution prop of =
$\angle 2$ and $\angle 3$ are complementary	Definition of complementary

PROOF OF THEOREM 2-7-3

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

$$\angle 1 \cong \angle 2$$

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

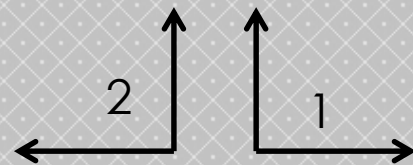


Statements	Reasons
$\angle 1$ and $\angle 2$ are supplementary $\angle 1 \cong \angle 2$	

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

$$\angle 1 \cong \angle 2$$

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



Statements	Reasons
$\angle 1$ and $\angle 2$ are supplementary $\angle 1 \cong \angle 2$	Given
$m\angle 1 + m\angle 2 = 180$	Def. of suppl.
$m\angle 1 = m\angle 2$	Def of \cong \angle s
$m\angle 1 + m\angle 1 = 180$	Subst. prop of =
$2m\angle 1 = 180$	CLT
$m\angle 1 = 90$	Div. prop of =
$m\angle 2 = 90$	Subst.
$\angle 1$ and $\angle 2$ are rt \angle s	Def. of rt \angle s

PROOF OF THEOREM 2-7-3