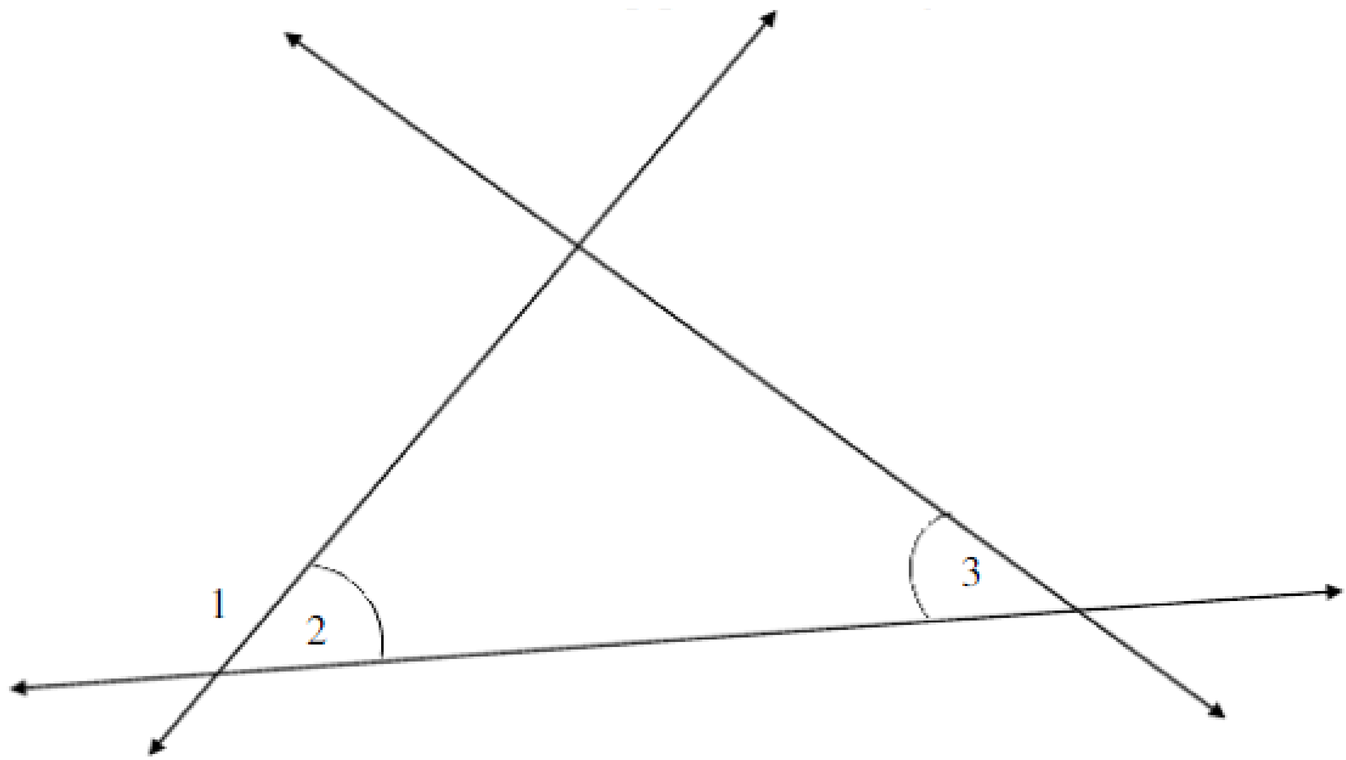
Group 1

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

Prove: $\angle 1$ and $\angle 3$ are Supplementary

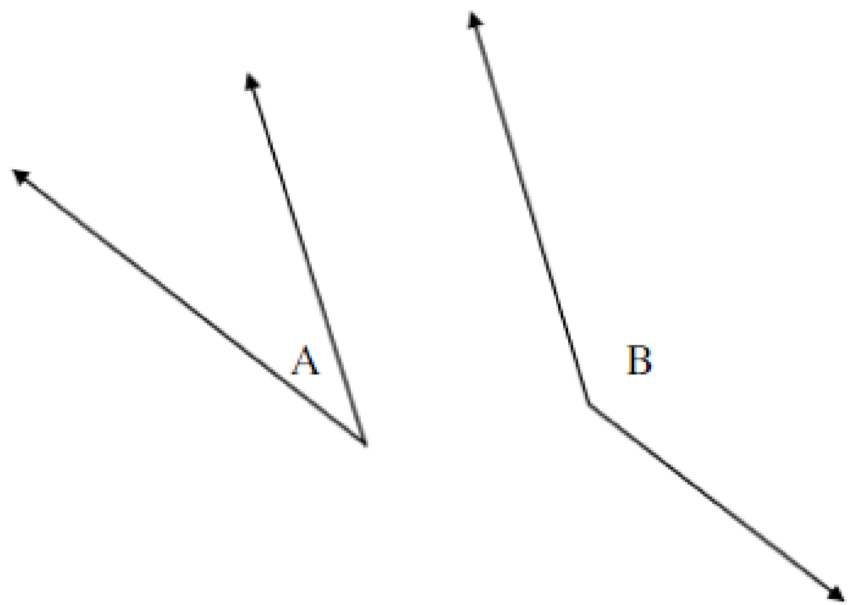


STATEMENTS	REASONS
$\angle 2 \cong \angle 3$	Given
$m\angle 2 \cong m\angle 3$	Definition of $\cong$ $\angle$'s
$\angle 1$ & $\angle 2$ are supplementary	Linear Pair Theorem
$m\angle 1 + m\angle 2 = 180°$	Definition of Supplementary $\angle$'s
$m\angle 1 + m\angle 3 = 180°$	Substitution
$\angle 1$ and $\angle 3$ are Supplementary	Definition of Supplementary $\angle$'s

Group 2

Given: m∠A = 60°, m∠B=m2∠A

Prove: ∠A & ∠B are supplementary

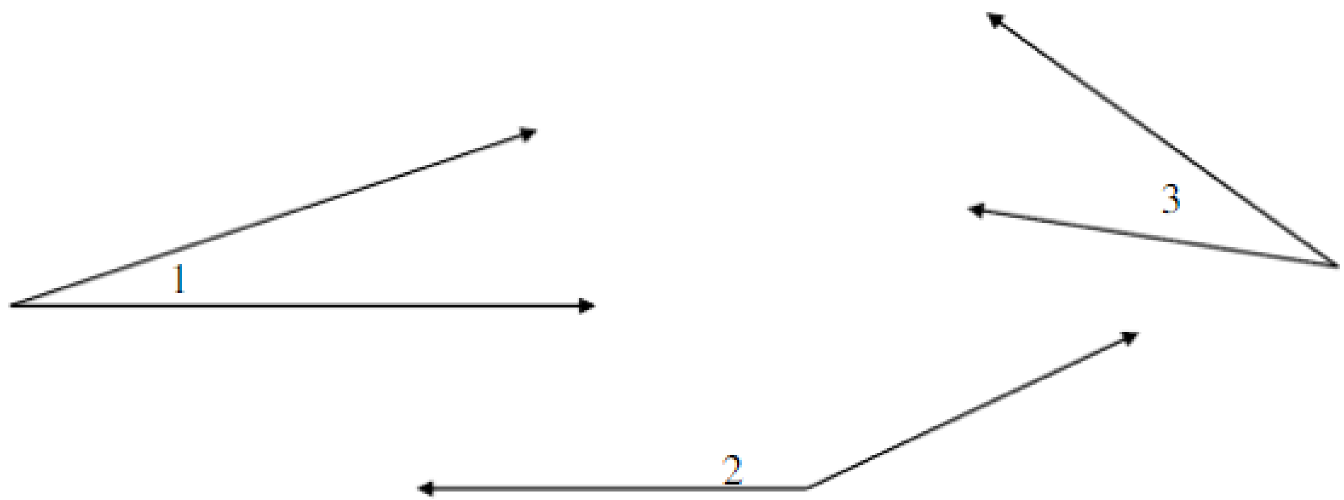


STATEMENTS	REASONS
$m\angle A = 60°$, $m\angle B = m2\angle A$	Given
$m\angle B = 2(60°)$	Substitution
$m\angle B = 120°$	Simplify
$m\angle A + m\angle B = 60° + 120°$	Addition Property of Equality
$m\angle A + m\angle B = 180°$	Simplify
$\angle A$ & $\angle B$ are supplementary	Definition of Supplementary $\angle$'s

Group 3

Given: $\angle 1$ & $\angle 2$ are supplementary
$\angle 1 \cong \angle 3$

Prove: $\angle 2$ & $\angle 3$ are supplementary



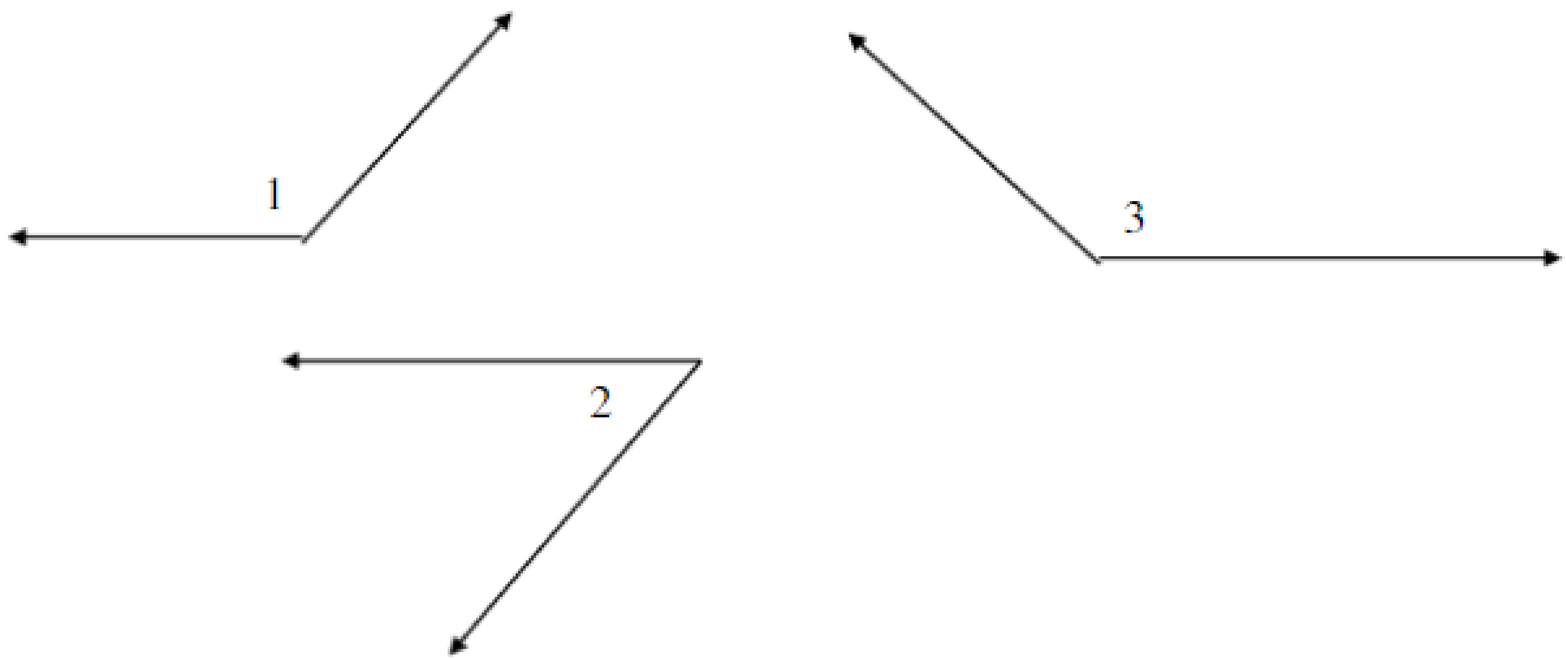
STATEMENTS	REASONS
$\angle 1$ & $\angle 2$ are supplementary	Given
$\angle 1 \cong \angle 3$	Given
$m\angle 1 + m\angle 2 = 180°$	Definition of Supplementary $\angle$'s
$m\angle 1 = m\angle 3$	Definition of $\cong$ $\angle$'s
$m\angle 3 + m\angle 2 = 180°$	Substitution
$\angle 2$ & $\angle 3$ are supplementary	Definition of Supplementary $\angle$'s

Group 4

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

$\angle 2$ & $\angle 3$ are supplementary

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



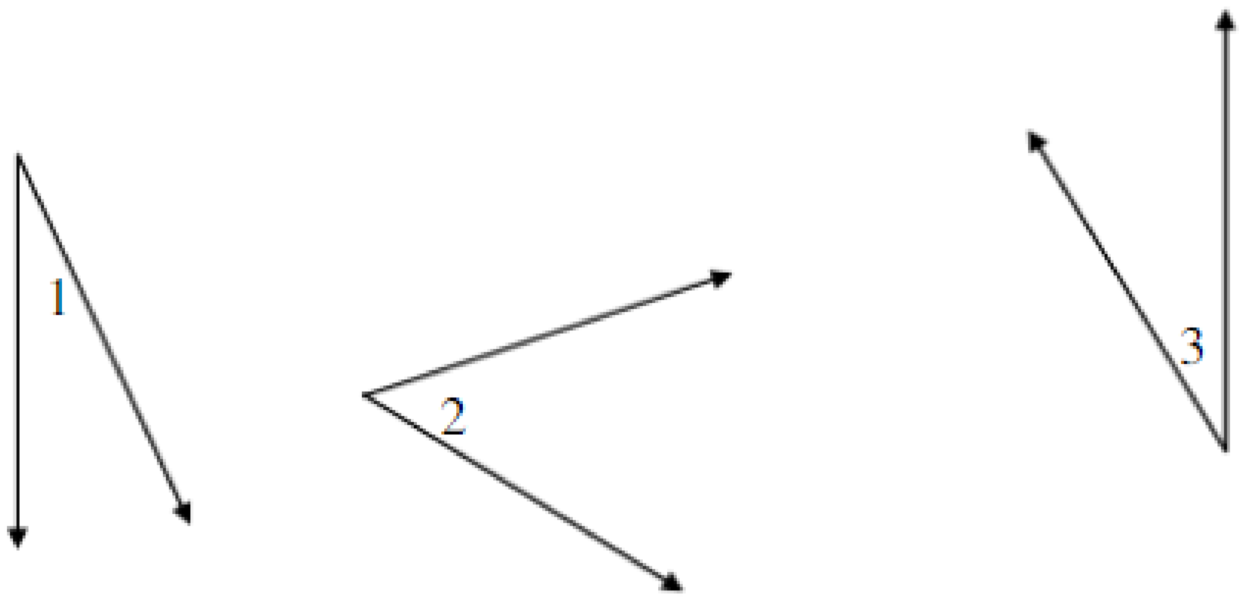
<u>STATEMENTS</u>	<u>REASONS</u>
$\angle 1$ & $\angle 2$ are supplementary $\angle 2$ & $\angle 3$ are supplementary	Given
$m\angle 1 + m\angle 2 = 180°$ $m\angle 2 + m\angle 3 = 180°$	Definition of Supplementary $\angle$'s
$m\angle 1 + m\angle 2 = m\angle 2 + m\angle 3$	Substitution
$m\angle 2 = m\angle 2$	Reflexive Property
$m\angle 1 = m\angle 3$	Subtraction Property of Equality
$\angle 1 \cong \angle 3$	Definition of $\cong$ $\angle$'s

Group 5

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

$\angle 2$ & $\angle 3$ are complementary

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



STATEMENTS	REASONS
$\angle 1$ & $\angle 2$ are complementary $\angle 2$ & $\angle 3$ are complementary	Given
$m\angle 1 + m\angle 2 = 90°$ $m\angle 2 + m\angle 3 = 90°$	Definition of Complementary $\angle$'s
$m\angle 1 + m\angle 2 = m\angle 2 + m\angle 3$	Substitution
$m\angle 2 = m\angle 2$	Reflexive Property
$m\angle 1 = m\angle 3$	Subtraction Property of Equality
$\angle 1 \cong \angle 3$	Definition of $\cong$ $\angle$'s