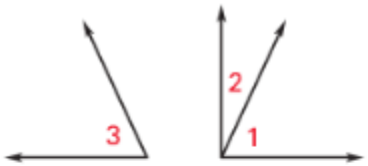
Name _____ Date _____

Algebra 1/Geometry B
Intro to Proofs HOMEWORK

Complete each proof.

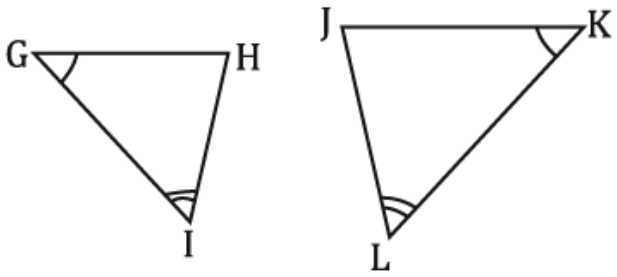
1. **GIVEN:** $\angle 3$ and $\angle 2$ are complementary.
$m\angle 1 + m\angle 2 = 90°$

PROVE: $\angle 1 \cong \angle 3$



Statements	Reasons
1. $\angle 3$ and $\angle 2$ are complementary, and $m\angle 1 + m\angle 2 = 90°$	1.
2. $m\angle 3 + m\angle 2 = 90°$	2.
3. $m\angle 1 + m\angle 2 = m\angle 3 + m\angle 2$	3.
4. $m\angle 1 = m\angle 3$	4.
5. $\angle 1 \cong \angle 3$	5.

2. Given: $\angle G \cong \angle K$, and $\angle I \cong \angle L$

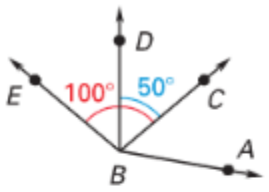


Prove: $\triangle GHI \sim \triangle KJL$

Statements	Reasons
1. $\angle G \cong \angle K$	1.
2.	2. Given
3. $\triangle GHI \sim \triangle KJL$	3.

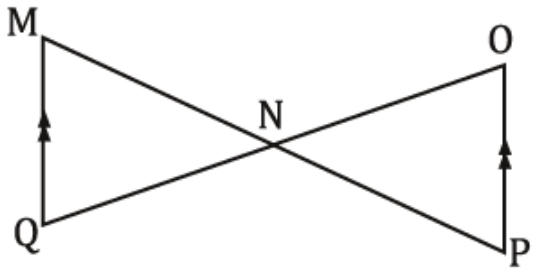
3. **GIVEN:** $\angle ABC \cong \angle CBD, m\angle CBD = 50°, m\angle CBE = 100°$

PROVE: $\angle ABC \cong \angle DBE$



Statements	Reasons
1. $\angle ABC \cong \angle CBD, m\angle CBD = 50°, m\angle CBE = 100°$	1.
2. ____ $= m\angle CBE$	2. Angle Addition Postulate
3. $50° + m\angle DBE = 100°$	3.
4. $m\angle DBE = 50°$	4.
5. $m\angle CBD =$ ____	5. Substitution Property of Equality
6.	6. Definition of congruent angles
7. $\angle ABC \cong \angle DBE$	7.

4. Given: $\overline{MQ} \parallel \overline{OP}$



Prove: $\triangle MNQ \sim \triangle PON$

Statements	Reasons
1.	1. Given
2. $\angle QMN \cong \angle OPN$	2.
3.	3. Vertical Angles
4. $\Delta MNQ \sim \Delta PON$	4.