

Use each given property to make a conclusion:

1. Transitive Property: If $AB = RQ$ and $RQ = ST$ and $ST = WX$, then

$$AB = WX$$

2. Symmetric Property: If $\overline{GH} \cong \overline{MN}$, then

$$\overline{MN} \cong \overline{GH}$$

3. Subtraction Property of Equality: If $m\angle ABC + 45^\circ = 110^\circ$, then

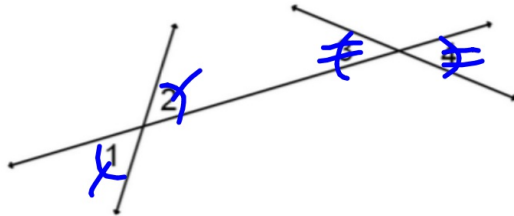
$$m\angle ABC = 65^\circ$$

4. Substitution Property: If $m\angle EFG = 20^\circ$
and $m\angle EFG + m\angle GFK = 165^\circ$, then

$$20 + m\angle GFK = 165$$

Given: $\angle 1 \cong \angle 4$

Prove: $\angle 2 \cong \angle 3$



Statement

1. $\angle 1 \cong \angle 4$

2. $\angle 1 \cong \angle 2$ and $\angle 3 \cong \angle 4$

3. $\angle 4 \cong \angle 2$

4. $\angle 3 \cong \angle 2$

5. $\angle 2 \cong \angle 3$

Reason

1. Given

2. Vert. $\angle$ s

3. subst.

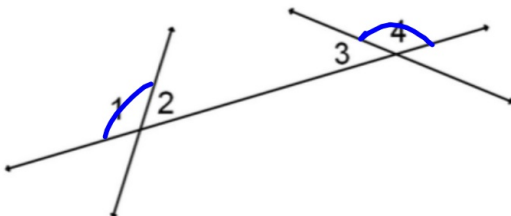
4. subst.

5.

symm. prop. of cong.

Given: $\angle 1 \cong \angle 4$

Prove: $\angle 2 \cong \angle 3$



Statement

1. $\angle 1 \cong \angle 4$

Reason

1. Given

2. $\angle 1$ & $\angle 2$ are suppl.

$\angle 3$ & $\angle 4$ are suppl.

2. Def. suppl.

3. $\angle 2 \cong \angle 3$

3. Cong. suppl. thm.