

Different Methods of Proof

Justification Using Properties of Equality and Congruence (Continued)

State the property of equality or property of congruence that justifies each conclusion.

1. Given: $m\angle 1 = m\angle 2$
 $m\angle 2 = 75$
Conclusion: $m\angle 1 = 75$
2. Given: $\overline{EG} \cong \overline{FG}$
 $\overline{FG} \cong \overline{GH}$
Conclusion: $\overline{EG} \cong \overline{GH}$
3. Given: $x + 9 = 13$
Conclusion: $x = 4$
4. Given: $JK = KL$
 $MN = KL$
Conclusion: $JK = MN$
5. Given: $7x = 63$
Conclusion: $x = 9$
6. Given: $m\angle 3 = 65$
 $m\angle 4 = 65$
Conclusion: $m\angle 3 + m\angle 4 = 130$
7. Given: $\angle 1 \cong \angle 2$
 $\angle 2 \cong \angle 3$
Conclusion: $\angle 1 \cong \angle 3$
8. Given: \overline{XY} is a segment
Conclusion: $\overline{XY} \cong \overline{XY}$
9. Given: $2x + y = 70$
 $y = 3x$
Conclusion: $2x + 3x = 70$
10. Given: $\angle A \cong \angle B$
Conclusion: $\angle B \cong \angle A$