

MIDTERM GEOMETRIC PROOF REVIEW

Use one the following to fill in the reasons for the geometric proof. Some may be used more than once, while others may not be used.

Given	Consecutive Interior Angles
Definition of Bisect	Consecutive Exterior Angles
Definition of Congruent	Alternate Interior Angles
Definition of Midpoint	Alternate Exterior Angles
Segment Addition Postulate	Corresponding Angles
Addition Property	Vertical Angles
Subtraction Property	Linear Pair
Multiplication Property	Supplementary Angles
Division Property	Complementary Angles
Substitution Property	SSS, SAS, AAS, ASA or HL

Given: $PQ = RS$

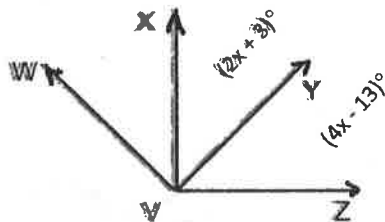
Prove: $PR \cong QS$



STATEMENTS	REASONS
1. $PQ = RS$	Given
2. $PQ + QR = RS + QR$	Addition Property
3. $PQ + QR = PR$	segment addition
4. $RS + QR = QS$	segment addition
5. $PR = QS$	substitution
6. $PR \cong QS$	def. of congruence

Given: \overline{VY} bisects $\angle XVZ$

Prove: $x = 8$

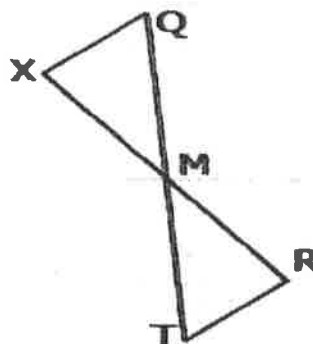


STATEMENTS	REASONS
1. \overline{VY} bisects $\angle XVZ$	given
2. $\angle YVZ \cong \angle XVY$	def of bisect
3. $4x - 13 = 2x + 3$	substitution
4. $2x - 13 = 3$	subtraction
5. $2x = 16$	addition
6. $x = 8$	division

Given: $\angle Q \cong \angle T$

$\overline{XM} \cong \overline{MR}$

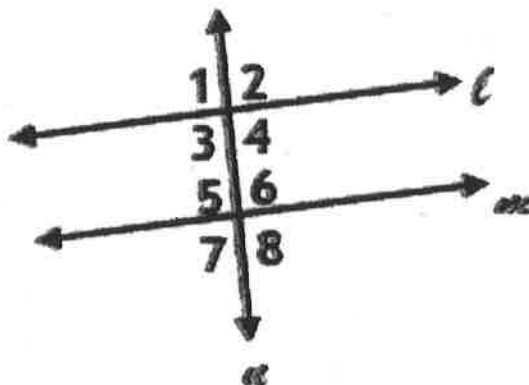
Prove: $\triangle XQM \cong \triangle RTM$



STATEMENTS	REASONS
1. $\angle Q \cong \angle T$	given
2. $\overline{XM} \cong \overline{MR}$	given
3. $\angle QMX \cong \angle TMR$	vertical angles
4. $\triangle XQM \cong \triangle RTM$	ASA AAS

Given: ℓ is parallel to m

Prove: $\angle 2 \cong \angle 7$



Statements	Reasons
1. ℓ is parallel to m	1. given
2. $\angle 2 \cong \angle 6$	2. corresponding angles post.
3. $\angle 6 \cong \angle 7$	3. vertical angles
4. $\angle 2 \cong \angle 7$	4. transitive