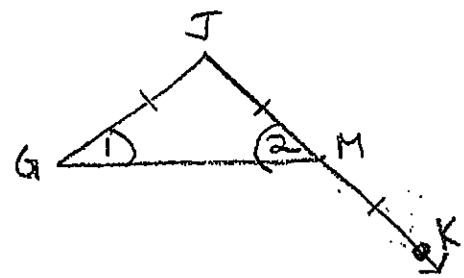
4-4

(13)



1. M is the mdpt. of $\overline{JK}$	1. Given
2. $\overline{MK} \cong \overline{JM}$	2. Def. mdpt.
3. $\angle 1 \cong \angle 2$	3. Given
4. $\overline{JM} \cong \overline{JG}$	4. if 2 $\angle$s of $\triangle$ $\cong$, then sides $\cong$
5. $\overline{MK} \cong \overline{JG}$	5. Transitive
6. $\overline{JG} \cong \overline{MK}$	6. Symmetric

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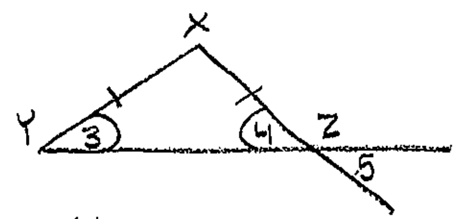

1. $\overline{XY} \cong \overline{XZ}$	1. Given
2. $\angle 3 \cong \angle 4$	2. 2 sides of $\triangle$ $\cong$ $\Rightarrow$ 2 $\angle$s $\cong$
3. $\angle 4 \cong \angle 5$	3. Vert. $\angle$s $\cong$
4. $\angle 3 \cong \angle 5$	4. Transitive

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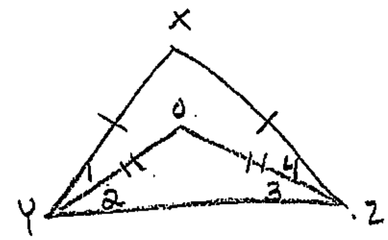
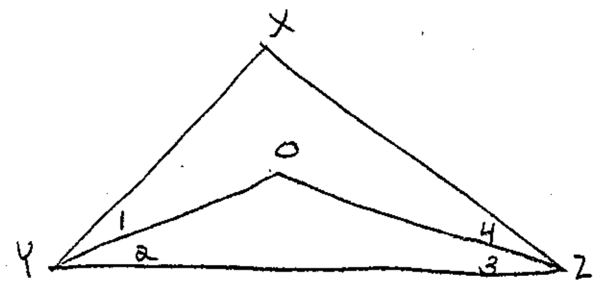


1. $\overline{XY} \cong \overline{XZ}$; $\overline{OY} \cong \overline{OZ}$	1. Given
2. $m\angle 1 + m\angle 2 = m\angle XYZ$ $m\angle 3 + m\angle 4 = m\angle XZY$	2. $\angle$ addn post.
3. $\angle XYZ \cong \angle XZY$ → 3b. $m\angle XYZ = m\angle XZY$	3. 2 $\cong$ sides of Δ → $\cong$ base $\angle$s → 3b. def. $\cong$
4. $m\angle 1 + m\angle 2 = m\angle 3 + m\angle 4$	4. substitution
5. $\angle 2 \cong \angle 3$	5. 2 $\cong$ sides of Δ → $\cong$ base $\angle$s
6. $m\angle 2 = m\angle 3$	6. def. $\cong$
7. $m\angle 1 = m\angle 4$	7. subtraction

(18) Given: $\overline{XY} \cong \overline{XZ}$

$\overrightarrow{YO}$ bisects $\angle XYZ$

$\overrightarrow{ZO}$ bisects $\angle XZY$



Prove: $\overline{YO} \cong \overline{ZO}$

1. $\overline{XY} \cong \overline{XZ}$	1. Given
2. $\angle XYZ \cong \angle XZY$	2. Isosc. Δ Thm.
3. $m\angle XYZ = m\angle XZY$	3. def. $\cong$
4. $\overrightarrow{YO}$ bisects $\angle XYZ$ $\overrightarrow{ZO}$ bisects $\angle XZY$	4. Given
5. $m\angle 2 = \frac{1}{2} m\angle XYZ$ $m\angle 3 = \frac{1}{2} m\angle XZY$	5. $\angle$ bisector Thm.
6. $m\angle 2 = \frac{1}{2} m\angle XZY$	6. subst.
7. $m\angle 3 = m\angle 2$	7. subst.
8. $\angle 3 \cong \angle 2$	8. def. $\cong$
9. $\overline{YO} \cong \overline{ZO}$	9. Converse of Isosc. Δ Thm.

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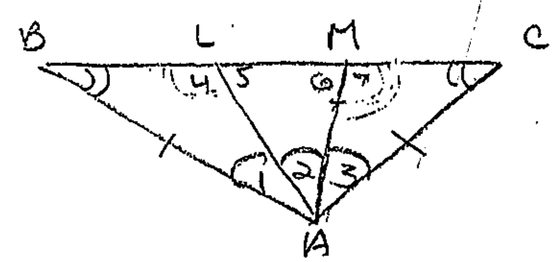

1. $\overline{AB} \cong AC$ $\overline{AL}$ + $\overline{AM}$ trisect $\angle BAC$	1. Given
2. $\angle 1 \cong \angle 2 \cong \angle 3$	2. def. trisect
3. $\angle B \cong \angle C$	3. 2 $\cong$ sides $\Rightarrow$ $\cong$ base $\angle$s
4 $\triangle BLA \cong \triangle CMA$	4. ASA
5. $\overline{AL} \cong \overline{AM}$	5. CPCTC

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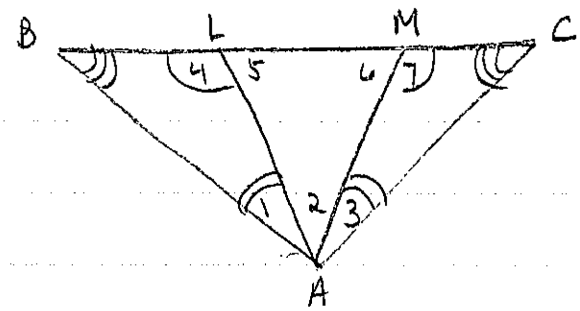
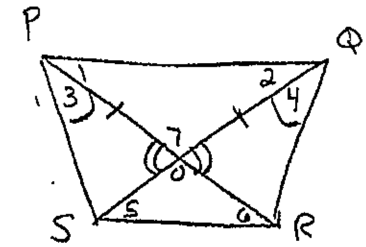
Given: $\angle 4 \cong \angle 7$; $\angle 1 \cong \angle 3$

Prove: $\triangle ABC$ is Isosc.



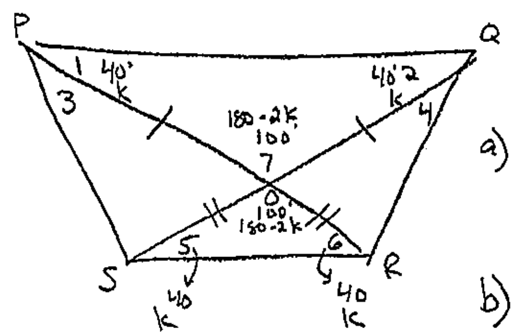
1. $\angle 4 \cong \angle 7$; $\angle 1 \cong \angle 3$	1. Given
2. $\angle B \cong \angle C$	2. 2 $\angle^s$ in $\triangle$ $\cong$ to 2 $\angle^s$ in another $\triangle$ → 3rd $\angle^s$ $\cong$
3. $\overline{AB} \cong \overline{AC}$	3. base $\angle^s$ $\cong$ → sides opp. $\cong$
4. $\triangle ABC$ is Isosc.	4. def. Isosc. $\triangle$

(21)



1. $\overline{OP} \cong \overline{OQ}$; $\angle 3 \cong \angle 4$	1. Given
2. $\angle POS \cong \angle QOR$	2. Vert. $\angle^s \cong$
3. $\triangle POS \cong \triangle QOR$	3. ASA
4. $\overline{SO} \cong \overline{RO}$	4. CPCTC
5. $\angle 5 \cong \angle 6$	6. Isosc. $\triangle$ Thm.

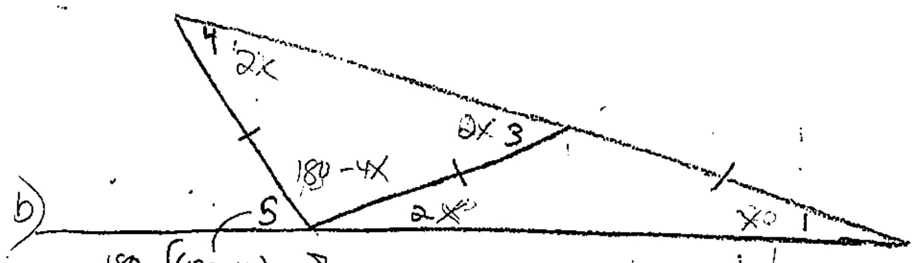
(22)



a) yes - $\angle 1 \cong \angle 6$ (alt. int. $\angle^s \cong$)

b) yes -

(23)



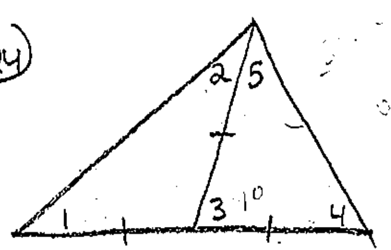
b)

$180 - [(180-4x)+x]$

$180-180+4x-x$

$\boxed{3x}$

(24)



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