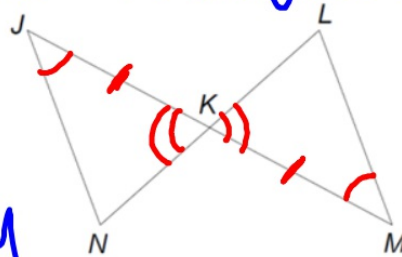


## p. 23 Intro to Triangle Proofs

Given:  $\angle J \cong \angle M$   
 $\overline{NL}$  bisects  $\overline{JM}$

Prove:

$$\triangle NKJ \cong \triangle LKM$$



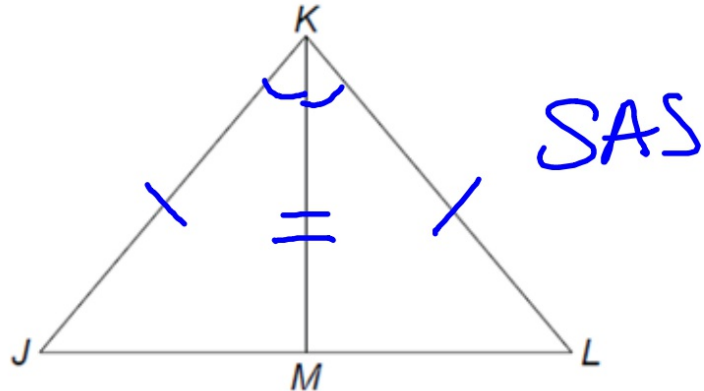
ASA

| Statements                                                               | Reasons                   |
|--------------------------------------------------------------------------|---------------------------|
| A ① $\angle J \cong \angle M$<br>$\overline{NL}$ bisects $\overline{JM}$ | ① Given                   |
| S ② $\overline{JK} \cong \overline{KM}$                                  | ② Definition of Bisector. |
| A ③ $\angle JKN \cong \angle LKM$                                        | ③ Vertical Angles         |
| $\triangle$ ④ $\triangle NKJ \cong$<br>$\triangle LKM$                   | ④ ASA                     |

Given:  $\overline{JK} \cong \overline{KL}$   
 $\overline{KM}$  bisects  $\angle JKL$

Prove:

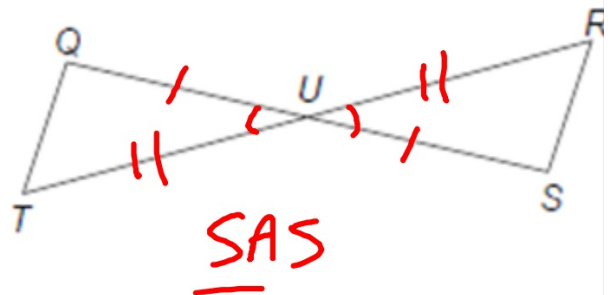
$\triangle JKM \cong \triangle LKM$



| Statements                                                                      | Reasons                 |
|---------------------------------------------------------------------------------|-------------------------|
| S ① $\overline{JK} \cong \overline{KL}$<br>$\overline{KM}$ bisects $\angle JKL$ | ① Given                 |
| A ② $\angle JKM \cong \angle LKM$                                               | ② Definition of bisect. |
| S ③ $\overline{KM} \cong \overline{KM}$                                         | ③ Reflexive             |
| $\triangle$ ④ $\triangle JKM \cong \triangle LKM$                               | ④ SAS                   |

Given:  $\overline{QS}$  and  $\overline{RT}$  bisect each other at  $U$

Prove:  $\triangle QUT \cong \triangle SUR$



| Statements                                                 | Reasons            |
|------------------------------------------------------------|--------------------|
| $\overline{QS}$ & $\overline{RT}$ bisect each other at $U$ | ① Given            |
| $\overline{QU} \cong \overline{UT}$                        | ② Defn of Bisector |
| $\angle QUT \cong \angle RUS$                              | ③ Vertical         |
| $\overline{RU} \cong \overline{US}$                        | ④ Defn of Bisector |
| $\triangle QUT \cong \triangle SUR$                        | ⑤ SAS              |