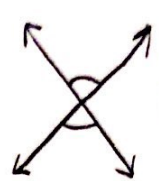








GUIDED NOTES: Proofs with Triangles

What can we use to prove?	
<p>Def. of Vertical Angles</p>  <p>\cong</p>	<p>Corresponding Angle Postulate</p>  <p>\cong</p>
<p>Def. of Perpendicular</p> <p>cross to make 90° angle</p> 	<p>Alternate Interior Angle Postulate</p>  <p>\cong</p>
<p>Def. of Parallel Lines</p> <p>never cross</p> 	<p>Reflexive Property ($AB = AB$)</p> <p>equal to itself (shared side)</p>
<p>Def. of Midpoint</p>  <p>cuts line segment in $1/2$</p>	<p>Def. of Bisect</p>  <p>cuts angle in $1/2$</p>

EX1. Given: J is the midpoint of IL

Prove: $\triangle JH \cong \triangle JK$

Statement:

Reason:

1) J is the midpoint of IL

1) given

2) $\angle I \cong \angle L$

2) given

3) $\overline{IJ} \cong \overline{JL}$

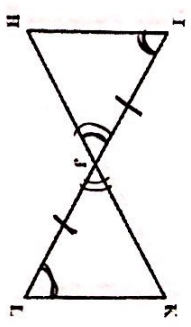
3) defn midpoint

4) $\angle IJH \cong \angle LJK$

4) vertical angles

5) $\triangle IJH \cong \triangle LJK$

5) ASA



I

K

$\angle I \cong \angle L$

EX2. Given: $WX \parallel YZ$, $WX \cong YZ$

Prove: $\triangle WXZ \cong \triangle YZX$

Statement:

Reason:

1) $WX \parallel YZ$, $WX \cong YZ$

1) given

2) $\angle WXZ \cong \angle YZX$

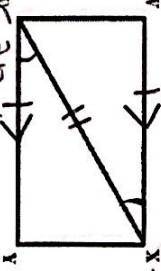
2) alternate interior angles

3) $\overline{XZ} \cong \overline{XZ}$

3) reflexive property

4) $\triangle WXZ \cong \triangle YZX$

4) SAS



EX3. Given: \overline{JM} bisects $\angle J$

Prove: $\triangle JMK \cong \triangle JML$

Statement:

Reason:

1) \overline{JM} bisects $\angle J$

1) given

2) $\overline{JM} \perp \overline{KL}$

2) given

3) $\angle KJM \cong \angle LJM$

3) defn bisects

4) $\angle KJM \cong \angle LJM$

4) perpendicular lines

5) $\overline{JM} \cong \overline{JM}$

5) reflexive property

6) $\triangle JMK \cong \triangle JML$

6) ASA

