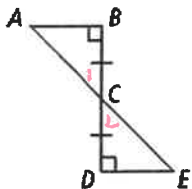


Name: _____

1) Given: $\overline{BD} \perp \overline{AB}$, $\overline{BD} \perp \overline{DE}$,
 $\overline{BC} \cong \overline{DC}$

Prove: $\angle A \cong \angle E$



Thoughts:

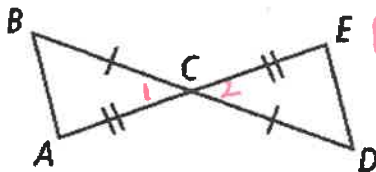
1. $\overline{BD} \perp \overline{AB}$, $\overline{BD} \perp \overline{DE}$
2. $\angle ABC$ & $\angle CDE$ are right angles.
3. $\angle ABC \cong \angle CDE$
4. $\angle 1 \cong \angle 2$
5. $\triangle ABC \cong \triangle CDE$
6. $\angle A \cong \angle E$

Statements

Reasons

1. Given
2. Perpendicular lines create right angles.
3. All right \angle 's are \cong .
4. All vertical \angle 's are \cong .
5. ASA
6. CPCTC

2) Given: $\overline{BC} \cong \overline{DC}$, $\overline{AC} \cong \overline{EC}$
 Prove: $\triangle ABC \cong \triangle EDC$



Thoughts:

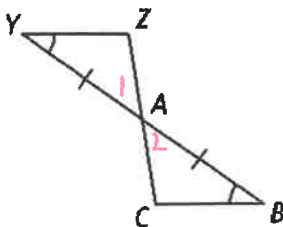
1. $\overline{BC} \cong \overline{DC}$, $\overline{AC} \cong \overline{EC}$
2. $\angle 1 \cong \angle 2$
3. $\triangle ABC \cong \triangle EDC$

Statements

Reasons

1. Given
2. All vertical angles are \cong .
3. SAS

3) Given: $\overline{YA} \cong \overline{BA}$, $\angle B \cong \angle Y$
 Prove: $\overline{AZ} \cong \overline{AC}$



Thoughts:

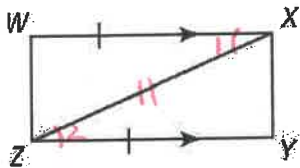
1. $\overline{YA} \cong \overline{BA}$, $\angle B \cong \angle Y$
2. $\angle 1 \cong \angle 2$
3. $\triangle YZA \cong \triangle BCA$
4. $\overline{AZ} \cong \overline{AC}$

Statements

Reasons

1. Given
2. All vertical angles are \cong .
3. ASA
4. CPCTC

4) Given: $\overline{WX} \parallel \overline{YZ}, \overline{WX} \cong \overline{YZ}$
 Prove: $\triangle WXZ \cong \triangle YZX$



Thoughts:

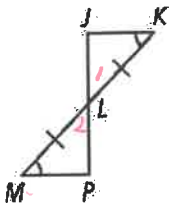
1. $\overline{WX} \parallel \overline{YZ}, \overline{WX} \cong \overline{YZ}$
2. $\angle 1 \cong \angle 2$
3. $\overline{ZX} \cong \overline{ZX}$
4. $\triangle WXZ \cong \triangle YZX$

Statements

Reasons

1. given
2. parallel lines create \cong alt. interior angles
3. Reflexive property
4. SAS

5) Given: $\angle K \cong \angle M, L$ is midpoint of \overline{KM}
 Prove: $\triangle JKL \cong \triangle PML$



Thoughts:

1. $\angle K \cong \angle M, L$ is midpoint of \overline{KM}
2. $\overline{ML} \cong \overline{LK}$
3. $\angle 1 \cong \angle 2$
4. $\triangle JKL \cong \triangle PML$

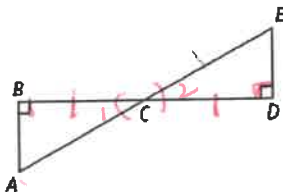
Statements

Reasons

1. given
2. A midpoint divides a segment into 2 \cong segments
3. All vertical \angle 's are \cong .
4. ASA

6) Given: $\angle B$ and $\angle D$ are right angles.
 \overline{AE} bisects \overline{BD}

Prove: $\triangle ABC \cong \triangle EDC$



Thoughts:

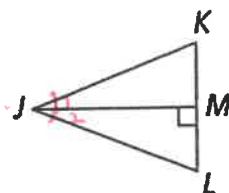
1. $\angle B$ & $\angle D$ are right angles.
 \overline{AE} bisects \overline{BD}
2. $\overline{BC} \cong \overline{CD}$
3. $\angle ABC \cong \angle CDE$
4. $\angle 1 \cong \angle 2$
5. $\triangle ABC \cong \triangle EDC$

Statements

Reasons

1. given
2. A bisector divides a segment into 2 \cong segments
3. All right \angle 's are \cong .
4. All vertical \angle 's are \cong
5. ASA

7) Given: \overline{JM} bisects $\angle J, \overline{JM} \perp \overline{KL}$
 Prove: $\triangle JMK \cong \triangle JML$



Thoughts:

1. \overline{JM} bisects $\angle J, \overline{JM} \perp \overline{KL}$
2. $\angle 1 \cong \angle 2$
3. $\angle JMK$ & $\angle JML$ are right angles.
4. $\angle JMK \cong \angle JML$
5. $\overline{JM} \cong \overline{JM}$
6. $\triangle JMK \cong \triangle JML$

Statements

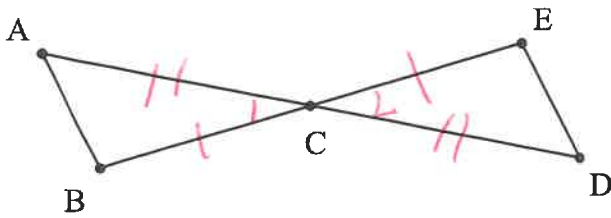
Reasons

1. given
2. A bisector divides an angle into 2 \cong \angle 's.
3. Perpendicular lines create right \angle 's.
4. All right angles are \cong .
5. Reflexive property
6. ASA

8. Directions: write a two column proof:

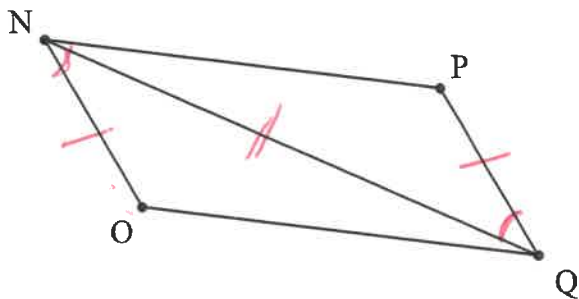
Given: C is the midpoint of \overline{AD} and C is the midpoint of \overline{EB} .

Prove: $\angle A \cong \angle D$



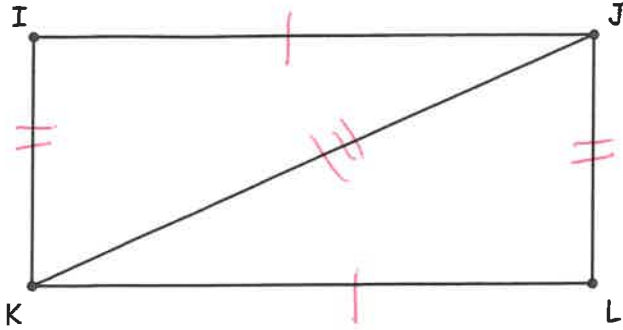
Statements	Reasons
1. C is midpoint \overline{AD} C is midpoint \overline{EB}	1. Given
2. $\overline{AC} \cong \overline{CD}$, $\overline{BC} \cong \overline{CE}$	2. A midpoint divides a segment into 2 \cong segments.
3. $\angle 1 \cong \angle 2$	3. Vertical angles are \cong .
4. $\triangle ABC \cong \triangle DEC$	4. SAS
5. $\angle A \cong \angle D$	5. CPCTC

9. Given: $\overline{NO} \cong \overline{PQ}$ and $\angle ONQ \cong \angle PQN$.
 Prove: $\overline{NP} \cong \overline{OQ}$



Statements	Reasons
1. $\overline{NO} \cong \overline{PQ}$, $\angle ONQ \cong \angle PQN$	1. Given
2. $\overline{NQ} \cong \overline{NQ}$	2. Reflexive property
3. $\triangle NOQ \cong \triangle PQN$	3. SAS
4. $\overline{NP} \cong \overline{OQ}$	4. CPCTC

10. Given: $\overline{IJ} \cong \overline{KL}$, $\overline{IK} \cong \overline{JL}$
 Prove: $\angle I \cong \angle L$



Statements	Reasons
1. $\overline{IJ} \cong \overline{KL}$ $\overline{IK} \cong \overline{JL}$	1. given
2. $\overline{KJ} \cong \overline{KJ}$	2. Reflexive property
3. $\triangle KIJ \cong \triangle KJL$	3. SSS
4. $\angle I \cong \angle L$	4. CPCTC

