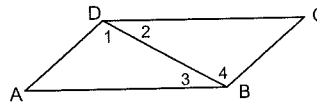


Proving Triangles Congruent

1. Given: $\overline{AD} \cong \overline{BC}$, $\overline{BC} \parallel \overline{AD}$
 Prove: $\triangle ABD \cong \triangle CDB$



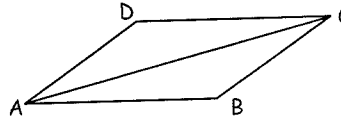
Statements

1. $\overline{AD} \cong \overline{BC}$, $\overline{BC} \parallel \overline{AD}$
2. $\overline{BD} \cong \overline{BD}$
3. $\angle 1 \cong \angle 4$
4. $\triangle ABD \cong \triangle CDB$

Reasons

1. _____
2. _____
3. _____
4. _____

2. Given: $\overline{AD} \cong \overline{CB}$, $\overline{DC} \cong \overline{BA}$
 Prove: $\triangle ABC \cong \triangle CDA$



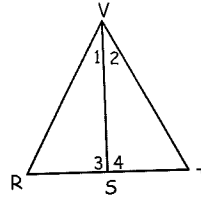
Statements

1. $\overline{AD} \cong \overline{CB}$, $\overline{DC} \cong \overline{BA}$
2. $\overline{AC} \cong \overline{AC}$
3. $\triangle ABC \cong \triangle CDA$

Reasons

1. _____
2. _____
3. _____

3. Given: $\overline{RV} \cong \overline{TV}$, \overline{VS} bisects $\angle RVT$
 Prove: $\triangle RSV \cong \triangle TSV$



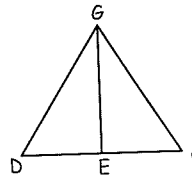
Statements

1. $\overline{RV} \cong \overline{TV}$, \overline{VS} bisects $\angle RVT$
2. $\angle 1 \cong \angle 2$
3. $\overline{VS} \cong \overline{VS}$
4. $\triangle RSV \cong \triangle TSV$

Reasons

1. _____
2. _____
3. _____
4. _____

4. Given: \overline{GE} bisects \overline{DF} , $\overline{GD} \cong \overline{GF}$
 Prove: $\triangle GDE \cong \triangle GFE$



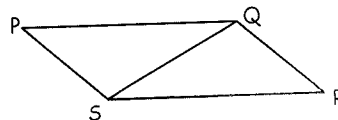
Statements

1. \overline{GE} bisects \overline{DF} , $\overline{GD} \cong \overline{GF}$
2. $\overline{DE} \cong \overline{EF}$
3. $\overline{GE} \cong \overline{GE}$
4. $\triangle GDE \cong \triangle GFE$

Reasons

1. _____
2. _____
3. _____
4. _____

5. Given: $\overline{PQ} \parallel \overline{RS}$, $\overline{PQ} \cong \overline{RS}$
 Prove: $\triangle POS \cong \triangle RSQ$



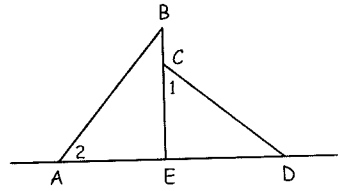
Statements

1. $\overline{PQ} \cong \overline{RS}$, $\overline{PQ} \parallel \overline{RS}$
2. $\angle POS \cong \angle RSQ$
3. $\overline{SQ} \cong \overline{SQ}$
4. $\triangle POS \cong \triangle RSQ$

Reasons

1. _____
2. _____
3. _____
4. _____

6. Given: $\overline{AE} \cong \overline{CE}$, $\angle 1 \cong \angle 2$, $\overline{BE} \perp \overline{AD}$
 Prove: $\triangle AEB \cong \triangle CED$



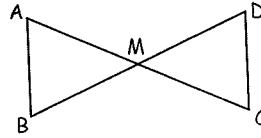
Statements

Reasons

1. $\overline{AE} \cong \overline{CE}$, $\angle 1 \cong \angle 2$
2. $\overline{BE} \perp \overline{AD}$
3. $\angle AEB$ and $\angle CED$ are right angles
4. $\angle AEB \cong \angle CED$
5. $\triangle AEB \cong \triangle CED$

1. _____
2. _____
3. _____
4. _____
5. _____

7. Given: \overline{AC} and \overline{BD} bisect each other at M
 Prove: $\triangle AMB \cong \triangle CMD$



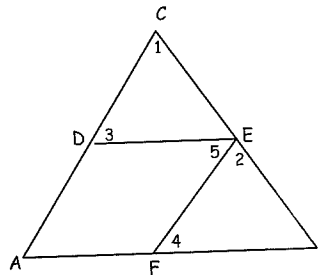
Statements

Reasons

1. \overline{AC} and \overline{BD} bisect each other
2. $\overline{AM} \cong \overline{CM}$, $\overline{BM} \cong \overline{DM}$
3. $\angle ______ \cong \angle ______$
4. $\triangle ______ \cong \triangle ______$

1. _____
2. _____
3. Vert. \angle 's \cong
4. _____

8. Given: $\overline{DE} \parallel \overline{AB}$, $\overline{CA} \parallel \overline{EF}$,
 $\angle 1 \cong \angle 2$,
 E is the midpoint of \overline{BC}
 Prove: $\triangle CDE \cong \triangle EFB$



Statements

Reasons

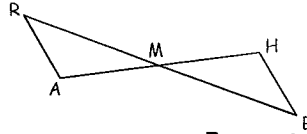
1. $\overline{CA} \parallel \overline{EF}$
2. $\angle 3 \cong \angle 5$
3. $\overline{DE} \parallel \overline{AB}$
4. $\angle 5 \cong \angle 4$
5. $\angle 3 \cong \angle 4$
6. $\angle ______ \cong \angle ______$
7. E is the midpoint of \overline{BC}
8. $CE = EB$
9. $______ \cong ______$
10. $\triangle ______ \cong \triangle ______$

1. _____
2. _____
3. _____
4. _____
5. _____
6. Given
7. _____
8. _____
9. def. \cong segs.
10. _____

Give a reason to support each statement.

- _____ 1. If $\angle A$ and $\angle B$ are a linear pair then $\angle A$ and $\angle B$ are supplementary.
- _____ 2. If $\angle A$ and $\angle C$ are vertical angles, then $\angle A \cong \angle C$.
- _____ 3. If $m\angle 1 = m\angle 2$, and $m\angle 2 = m\angle 3$, then $m\angle 1 = m\angle 3$.
- _____ 4. If $\triangle ABF \cong \triangle CED$, then $\angle A \cong \angle C$.
- _____ 5. If $\angle A$ and $\angle D$ are complementary, then $m\angle A + m\angle D = 90$.
- _____ 6. If T is in the interior of $\angle SRF$, then $m\angle SRT + m\angle TRF = m\angle SRF$.
- _____ 7. If \vec{RT} bisects $\angle SRF$, then $m\angle SRT = m\angle TRF$.

8. Given: \overline{AH} and \overline{BR} bisect each other at M
 Prove: $\angle A \cong \angle H$



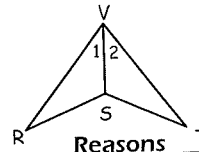
Statements

Reasons

1. \overline{AH} and \overline{BR} bisect each other at M
2. $\overline{AM} \cong \overline{HM}$, $\overline{RM} \cong \overline{BM}$
3. $\angle RMA \cong \angle BMH$
4. $\triangle AMR \cong \triangle HMB$
5. $\angle A \cong \angle H$

1. _____
2. _____
3. _____
4. _____
5. _____

9. Given: $\overline{RV} \cong \overline{VT}$, \overline{VS} bisects $\angle RVT$
 Prove: $\overline{RS} \cong \overline{TS}$



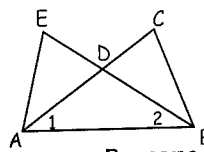
Statements

Reasons

1. $\overline{RV} \cong \overline{VT}$, \overline{VS} bisects $\angle RVT$
2. $\angle 1 \cong \angle 2$
3. $\overline{VS} \cong \overline{VS}$
4. $\triangle RSV \cong \triangle TSV$
5. $\overline{RS} \cong \overline{TS}$

1. _____
2. _____
3. _____
4. _____
5. _____

10. Given: $\overline{AE} \cong \overline{BC}$, $\angle EAB \cong \angle CBA$
 Prove: $\angle 1 \cong \angle 2$



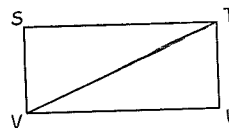
Statements

Reasons

1. $\overline{AE} \cong \overline{BC}$, $\angle EAB \cong \angle CBA$
2. $\overline{AB} \cong \overline{AB}$
3. $\triangle ABC \cong \triangle BAE$
4. $\angle 1 \cong \angle 2$

1. _____
2. _____
3. _____
4. _____

11. Given: $\angle SVT \cong \angle UTU$, $\overline{SV} \cong \overline{UT}$
 Prove: $\angle STV \cong \angle UVT$



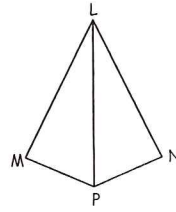
Statements

Reasons

1. $\angle SVT \cong \angle UTU$
2. _____ \cong _____
3. $\overline{VT} \cong \overline{VT}$
4. $\triangle SVT \cong \triangle UTV$
5. $\angle STV \cong \angle UVT$

1. _____
2. Given
3. _____
4. _____
5. _____

12. Given: \overline{LP} bisects $\angle MLN$,
 $\overline{PM} \perp \overline{LM}$, $\overline{PN} \perp \overline{LN}$
 Prove: $\overline{PM} \cong \overline{PN}$

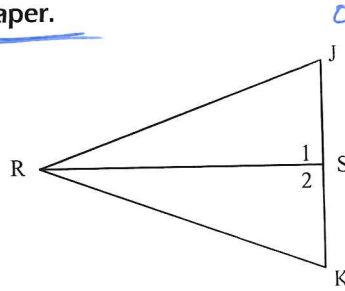


Statements	Reasons
1. \overline{LP} bisects $\angle MLN$	1. _____
2. $\angle NLP \cong \angle MLP$	2. _____
3. $\overline{PM} \perp \overline{LM}$, $\overline{PN} \perp \overline{LN}$	3. _____
4. $\angle LMP$ and $\angle LNP$ are right angles	4. _____
5. $\angle LMP \cong \angle LNP$	5. _____
6. _____ \cong _____	6. Reflexive
7. $\triangle LMP \cong \triangle LNP$	7. _____
8. $\overline{PM} \cong \overline{PN}$	8. _____

Writing Two Column Proofs - Dec 5

Write a two column proof for each. Use notebook paper.

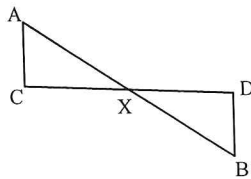
1. Given: $\overline{RJ} \cong \overline{RK}$, $\overline{SJ} \cong \overline{SK}$
 Prove: $\triangle RSJ \cong \triangle RSK$



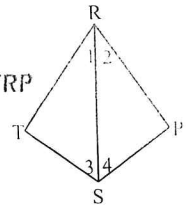
Problems # 1 and 2

2. Given: $\angle 1$ and $\angle 2$ are right angles, $\overline{JS} \cong \overline{KS}$
 Prove: $\triangle RSJ \cong \triangle RSK$

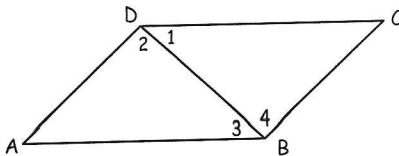
3. Given: \overline{AB} and \overline{CD} bisect each other
 Prove: $\triangle AXC \cong \triangle BXD$



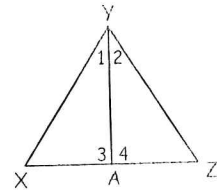
4. Given: $\angle 3 \cong \angle 4$, \overline{RS} bisects $\angle TRP$
 Prove: $\triangle RST \cong \triangle RSP$



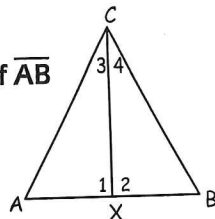
5. Given: $\overline{AB} \cong \overline{CD}$
 $\overline{AB} \parallel \overline{CD}$
 Prove: $\triangle ABD \cong \triangle CDB$



6. Given: $\angle X \cong \angle Z$
 $\angle 3 \cong \angle 4$
 Prove: $\triangle XYA \cong \triangle ZYA$



7. Given: $\overline{AC} \cong \overline{BC}$
 X is the midpoint of \overline{AB}
 Prove: $\triangle ACX \cong \triangle BCX$



8. Given: $\overline{AX} \perp \overline{VT}$
 $\angle 1 \cong \angle 2$
 Prove: $\triangle VXA \cong \triangle TXA$

