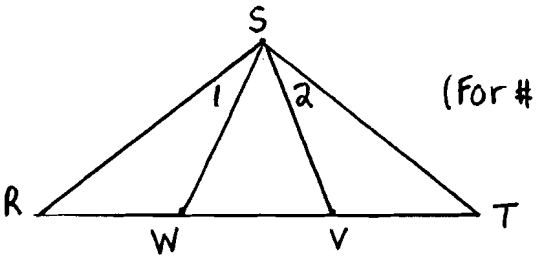
Geometry
4-4, 4-5, 4-7 proofs
Handout 4C

Name_____

***Copy given, prove, and figure for <u>each</u> proof.*

1. Given: $\overline{RS} \cong \overline{TS}$, $\overline{RW} \cong \overline{TV}$
   Prove: $\angle 1 \cong \angle 2$

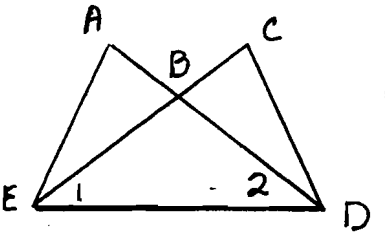


(For #1)

2. Given: $\overline{AE} \cong \overline{CD}$, $\overline{AD} \cong \overline{CE}$
   Prove: $\angle A \cong \angle C$

3. Given: $\angle AED \cong \angle CDE$, $\angle 1 \cong \angle 2$
   Prove: $\overline{AE} \cong \overline{CD}$

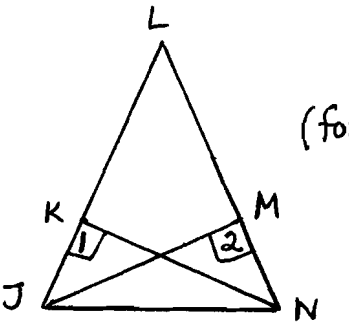
4. Given: $\overline{AE} \cong \overline{CD}$, $\angle AED \cong \angle CDE$
   Prove: $\angle 1 \cong \angle 2$



(for #2-4)

5. Given: $\angle KJN \cong \angle MNJ$, $\overline{JK} \perp \overline{KN}$, $\overline{NM} \perp \overline{MJ}$
   Prove: $\overline{KN} \cong \overline{MJ}$

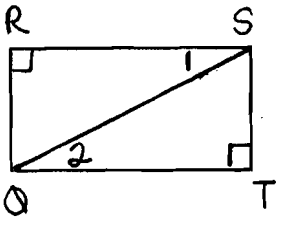
6. Given: $\overline{KN} \cong \overline{MJ}$, $\angle 1$ and $\angle 2$ are right $\angle$s
   Prove: $\overline{KJ} \cong \overline{MN}$



(for #5-6)

7. Given: $\angle R$ and $\angle T$ are right $\angle$s, $\overline{RQ} \cong \overline{TS}$
   Prove: $\angle 1 \cong \angle 2$

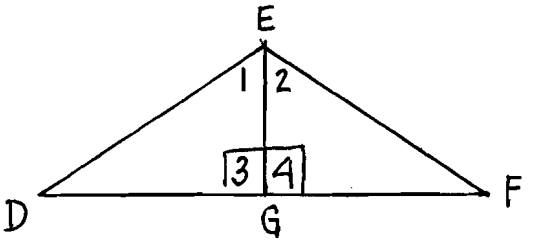
8. Given: $\angle R$ and $\angle T$ are right $\angle$s, $\overline{RS} \parallel \overline{QT}$
   Prove: $\overline{RQ} \cong \overline{TS}$



(for #7-8)

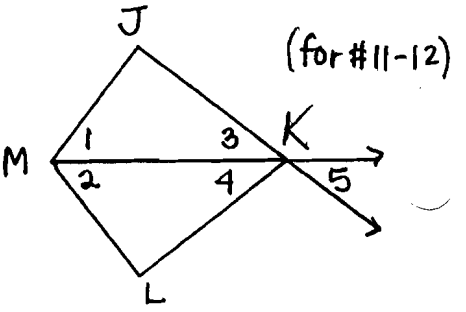
9. Given: $\overline{EG} \perp \overline{DF}$, $\overline{DE} \cong \overline{FE}$
   Prove: $\angle 1 \cong \angle 2$

10. Given: $\overline{EG} \perp \overline{DF}$, G is the midpoint of $\overline{DF}$
    Prove: Δ DEF is isosceles



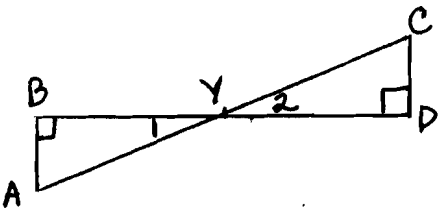
11. Given: $\angle J \cong \angle L$, $\overline{KM}$ bisects $\angle$ JML
    Prove: $\angle 4 \cong \angle 5$

12. Given: $\angle$ J and $\angle$ L are right $\angle$s, $\overline{JM} \cong \overline{LM}$
    Prove: $\overline{KM}$ bisects $\angle$ JKL



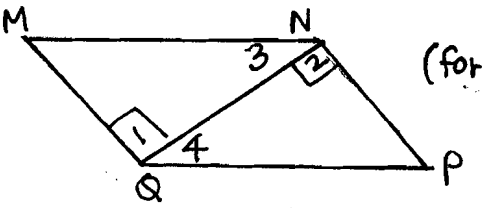
(for #11-12)

13. Given: $\overline{AB} \perp \overline{BY}$, $\overline{CD} \perp \overline{DY}$, $\overline{AC}$ bisects $\overline{BD}$
    Prove: $\overline{AB} \cong \overline{CD}$



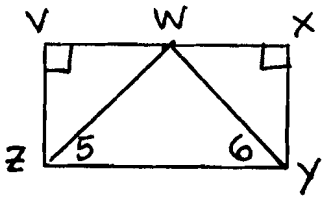
(for #13)

14. Given: $\angle$ 1 and $\angle$ 2 are right $\angle$s, $\overline{MN} \cong \overline{PQ}$
    Prove: $\overline{MN} \parallel \overline{QP}$



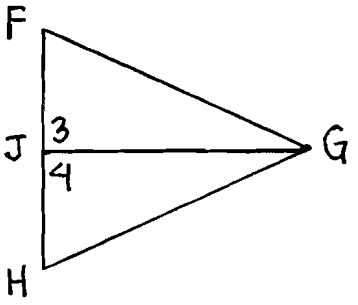
(for #14)

15. Given: $\overline{ZV} \perp \overline{VX}$, $\overline{YX} \perp \overline{XV}$, W is the midpoint of $\overline{VX}$, $\angle 5 \cong \angle 6$
    Prove: $\Delta ZVW \cong \Delta YXW$



(for #15)

16. Given: $\overline{GJ}$ is the perpendicular bisector of $\overline{FH}$
    Prove: $\Delta FGJ \cong \Delta HGJ$



(for #16)