

A 1. Given: $\overline{AB} \cong \overline{CD}$; $\overline{BC} \cong \overline{DA}$.

Prove: $\angle B \cong \angle D$.

2. Given: $\overline{AB} \cong \overline{CD}$; $\angle 1 \cong \angle 4$.

Prove: $\overline{AD} \cong \overline{CB}$.

3. Given: $\angle 1 \cong \angle 4$; $\angle 2 \cong \angle 3$.

Prove: $\overline{AB} \cong \overline{CD}$.

4. Given: $\angle 1 \cong \angle 4$; $\angle B \cong \angle D$.

Prove: $\overline{AD} \cong \overline{CB}$.

5. Given: $\overline{AB} \parallel \overline{DC}$; $\overline{AD} \parallel \overline{BC}$.

Prove: $AD = CB$.

6. Given: $\overline{AB} \parallel \overline{DC}$; $AB = CD$.

Prove: $m\angle 2 = m\angle 3$.

7. Given: $\overline{AD} \parallel \overline{BC}$; $AD = CB$.

Prove: $AB = CD$.

11. Given: \overline{TQ} bisects $\angle RTS$; $\angle R \cong \angle S$.

Prove: $\overline{TQ} \perp \overline{RS}$.

12. Given: \overline{TQ} bisects \overline{RS} ; $\overline{RT} \cong \overline{ST}$.

Prove: $\overline{TQ} \perp \overline{RS}$.

13. Given: $\overline{TQ} \perp \overline{RS}$; \overline{TQ} bisects $\angle RTS$.

Prove: $RT = ST$.

14. Given: \overline{TQ} is the \perp bisector of \overline{RS} .

Prove: $m\angle R = m\angle S$.

B 15. Given: $\angle 3 \cong \angle 5$;

$\angle 4 \cong \angle 6$;

$\overline{JK} \cong \overline{JM}$;

$\overline{NK} \cong \overline{NM}$.

Prove: $r \parallel s$.

16. Given: $\angle 3 \cong \angle 5$;

$\angle 4 \cong \angle 6$;

$\angle 1 \cong \angle 2$; $r \parallel s$.

Prove: $\overline{JK} \cong \overline{JM}$.

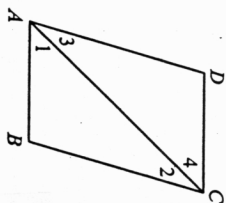
17. Given: $\angle 2 \cong \angle 3$; $\angle 4 \cong \angle 5$.

Prove: $\overline{RS} \cong \overline{RT}$.

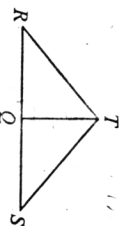
18. Given: $\angle 4 \cong \angle 5$; $\overline{RS} \cong \overline{RT}$.

Prove: $\angle 2 \cong \angle 3$.

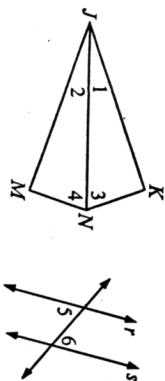
Exs. 1-10



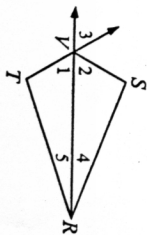
Exs. 11-14



Exs. 15, 16



Exs. 17, 18



19. Prove: If P is a point on the bisector of $\angle ABC$ with $\overline{PX} \perp \overline{BA}$ at X

and $\overline{PY} \perp \overline{BC}$ at Y , then $\overline{PX} \cong \overline{PY}$.

20. Prove: Any point on the perpendicular bisector of a segment is equidistant from the endpoints of the segment.

21. Given: $\overline{AD} \cong \overline{BE}$; $\angle DAB \cong \angle EBA$.

Prove: $\overline{BD} \cong \overline{AE}$.

22. Given: $\overline{AD} \cong \overline{BE}$; $\overline{BD} \cong \overline{AE}$.

Prove: $\angle ADB \cong \angle BEA$.

23. Given: $\overline{AC} \cong \overline{BC}$; $\overline{DC} \cong \overline{EC}$.

Prove: $\angle AEC \cong \angle BDC$.

24. Given: $\overline{AD} \cong \overline{BE}$; $\overline{CD} \cong \overline{CE}$.

Prove: $\overline{AE} \cong \overline{BD}$.

25. Given: $\overline{RS} \cong \overline{TQ}$; $\overline{ST} \cong \overline{QR}$;

$\angle 7 \cong \angle 8$.

Prove: $\overline{QX} \cong \overline{SY}$.

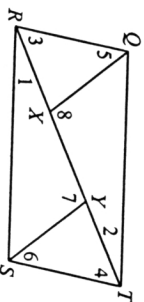
Analysis: Prove $\triangle RST \cong \triangle TQR$

to get $\angle 1 \cong \angle 2$.

Then prove

$\triangle RSY \cong \triangle TQX$.

Exs. 25, 26



You write the proof.

26. Given: $\overline{RS} \cong \overline{TQ}$; $\overline{RS} \parallel \overline{QT}$;

$\angle 5 \cong \angle 6$.

Prove: $\overline{QX} \cong \overline{SY}$.

Analysis: Prove $\triangle RST \cong \triangle TQR$ to get $\angle 3 \cong \angle 4$ and $\overline{RQ} \cong \overline{TS}$. Prove $\triangle RXY \cong \triangle TYS$.

You write the proof.

27. Given: $\overline{PK} \cong \overline{PM}$; $\overline{KY} \cong \overline{MZ}$.

Prove: $\angle 1 \cong \angle 2$.

28. Given: $\angle 1 \cong \angle 2$; $\overline{KP} \cong \overline{MP}$.

Prove: $\overline{YX} \cong \overline{ZX}$.

29. Given: $\angle ABC \cong \angle ACB$; $\overline{BX} \cong \overline{CX}$;

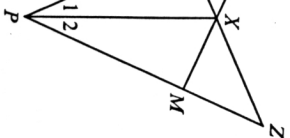
$\angle PXB \cong \angle QXC$.

Prove: $\overline{BQ} \cong \overline{CP}$.

30. Given: $\overline{AP} \cong \overline{AQ}$; $\overline{PB} \cong \overline{QC}$.

Prove: $m\angle QBC = m\angle PCB$.

Exs. 27, 28



Exs. 29, 30

