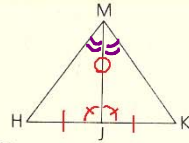


Pages 135-137 (Section 3.4)

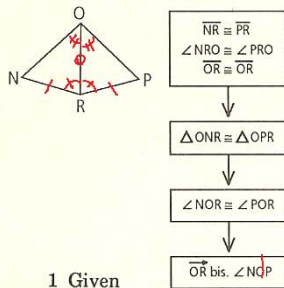
1 a Median b Altitude c Altitude d Both

2 Given: $\overline{HJ} \cong \overline{KJ}$
 $\angle MJH \cong \angle MJK$
 Prove: \overline{MJ} bis $\angle HMK$.



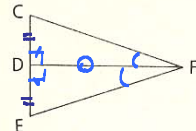
- S 1 $\overline{HJ} \cong \overline{KJ}$
- A 2 $\angle MJH \cong \angle MJK$
- S 3 $\overline{MJ} \cong \overline{MJ}$
- 4 $\triangle MJH \cong \triangle MJK$
- 5 $\angle HMJ \cong \angle KMJ$
- 6 \overline{MJ} bis $\angle HMK$.
- 1 Given
- 2 Given
- 3 Reflexive prop
- 4 SAS (1 2 3)
- 5 CPCTC (4)
- 6 If a ray divides an \angle into 2 \cong \angle s, it bis the \angle . (5)

3 Given: $\overline{NR} \cong \overline{PR}$
 \overline{RO} bis $\angle NRP$.
 Prove: \overline{OR} bis $\angle NOP$.



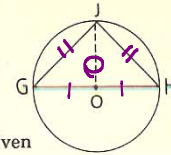
- S 1 $\overline{NR} \cong \overline{PR}$
- A 3 $\angle NRO \cong \angle PRO$
- S 4 $\overline{OR} \cong \overline{OR}$
- 5 $\triangle ONR \cong \triangle OPR$
- 6 $\angle NOR \cong \angle POR$
- 7 \overline{OR} bis $\angle NOP$.
- 1 Given
- 2 Given
- 3 A bis divides an \angle into 2 \cong \angle s. (2)
- 4 Reflexive prop
- 5 SAS (1 3 4)
- 6 CPCTC (5)
- 7 If a ray divides an \angle into 2 \cong \angle s, it bis the \angle . (6)

4 Given: $\angle CFD \cong \angle EFD$
 \overline{FD} is an alt.
 Prove: \overline{FD} is a median.



- A 1 $\angle CFD \cong \angle EFD$
- S 5 $\overline{FD} \cong \overline{FD}$
- 6 $\triangle CDF \cong \triangle EDF$
- 7 $\overline{CD} \cong \overline{ED}$
- 8 \overline{FD} is a median.
- 1 Given
- 2 Given
- 3 An alt of a \triangle forms rt \angle s with the side to which it is drawn.
- 4 Rt \angle s are \cong .
- 5 Reflexive prop
- 6 ASA (1 5 4)
- 7 CPCTC (6)
- 8 If a seg from the vertex of a \triangle divides the opp side into 2 \cong segs, it is the median. (7)

5 Given: $\odot O$
 $\overline{GJ} \cong \overline{HJ}$



- Prove: $\angle G \cong \angle H$
- 1 $\odot O$
 - 2 $\overline{OG} \cong \overline{OH}$
 - 3 $\overline{GJ} \cong \overline{HJ}$
 - 4 Draw \overline{OJ}
 - 5 $\overline{OJ} \cong \overline{OJ}$
 - 6 $\triangle OGJ \cong \triangle OHJ$
 - 7 $\angle G \cong \angle H$

- 1 Given
- 2 Radii of a \odot are \cong . ($\odot \Rightarrow \cong$ radii) (1)
- 3 Given
- 4 Two pts determine a seg.
- 5 Reflexive prop (4)
- 6 SSS (2 3 5)
- 7 CPCTC (6)

6 $\overline{SW} \cong \overline{VW}$ by def of a median so,

$$2x + 30 = 5x - 6$$

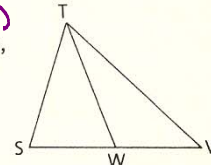
$$36 = 3x$$

$$12 = x$$

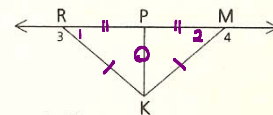
$$\overline{SW} = 2(12) + 30 \quad \overline{VW} = 5(12) - 6 \quad \overline{ST} = 12 + 40$$

$$\overline{SW} = 24 + 30 \quad \overline{VW} = 60 - 6 \quad \overline{ST} = 52$$

$$\overline{SW} = 54 \quad \overline{VW} = 54$$



7 Given: \overline{KP} is a median.
 $\overline{MK} \cong \overline{RK}$

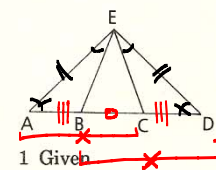


- Concl: $\angle 3 \cong \angle 4$
- 1 \overline{KP} is a median.
 - 2 $\overline{RP} \cong \overline{MP}$
 - 3 $\overline{MK} \cong \overline{RK}$
 - 4 $\overline{PK} \cong \overline{PK}$
 - 5 $\triangle PRK \cong \triangle PMK$
 - 6 $\angle PRK \cong \angle PMK$
 - 7 $\angle 3$ supp to $\angle PRK$

- 1 Given
- 2 A median of a \triangle divides one side into 2 \cong segs. (1)
- 3 Given
- 4 Reflexive prop
- 5 SSS (2 3 4)
- 6 CPCTC (5)
- 7 If 2 \angle s form a st \angle , they are supp.
- 8 Same as 7
- 9 Supp of \cong \angle s are \cong .

- 8 $\angle 4$ supp to $\angle PMK$
- 9 $\angle 3 \cong \angle 4$

8 Given: $\angle AEB \cong \angle DEC$
 $\overline{AE} \cong \overline{DE}$



- Concl: $\overline{AC} \cong \overline{BD}$
- 1 $\angle AEB \cong \angle DEC$
 - 2 $\overline{AE} \cong \overline{DE}$
 - 3 $\angle A \cong \angle D$
 - 4 $\triangle AEB \cong \triangle DEC$
 - 5 $\overline{AB} \cong \overline{CD}$
 - 6 $\overline{BC} \cong \overline{BC}$
 - 7 $\overline{AC} \cong \overline{BD}$

- 1 Given
- 2 Given
- 3 Given
- 4 ASA (1 2 3)
- 5 CPCTC (4)
- 6 Reflexive prop
- 7 Addition prop

ORG.

9 Given: $\odot O$

$$\angle NOG \cong \angle POG$$

Concl: \overrightarrow{RO} bis $\angle NRP$.

1 $\odot O$

S 2 $\overline{ON} \cong \overline{OP}$

3 $\angle NOG \cong \angle POG$

4 $\angle 1$ is supp to $\angle NOG$.

5 $\angle 2$ is supp to $\angle POG$.

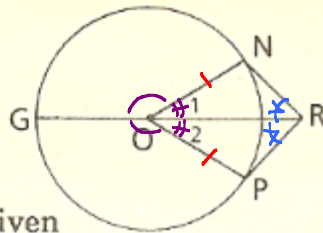
A 6 $\angle 1 \cong \angle 2$

S 7 $\overline{OR} \cong \overline{OR}$

8 $\triangle ONR \cong \triangle OPR$

9 $\angle NRO \cong \angle PRO$

10 \overrightarrow{RO} bis $\angle NRP$.



1 Given

2 $\odot \Rightarrow \cong \text{RADI}$ (1)

3 GIVEN

4 st $\angle \Rightarrow \text{supp } \angle$ s

5 st $\angle \Rightarrow \text{supp } \angle$ s

6 \angle s supp to $\cong \angle$ s $\Rightarrow \cong \angle$ s (3,4,5)

7 Ref

8 SAS (2 & 7)

9 CPCTC (8)

10 $\cong \angle$ s \Rightarrow bis (9)