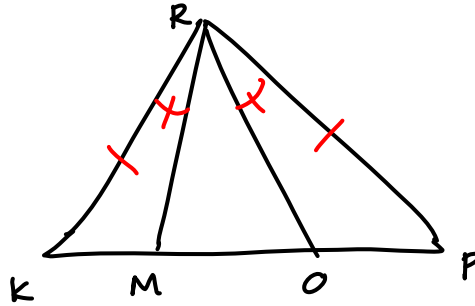


Section 3.7 pgs. 152 - 155 #2, 5, 8, 12, 15, 19, 22, 25

#2 Given: $\angle KRM \cong \angle PRO$
 $\overline{KR} \cong \overline{PR}$

Prove: $\overline{RM} \cong \overline{RO}$

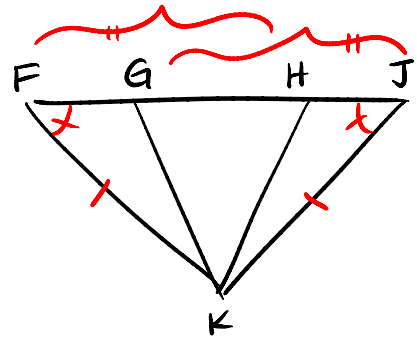


1. $\angle KRM \cong \angle PRO$ (A)
2. $\overline{KR} \cong \overline{PR}$ (S)
3. $\angle K \cong \angle P$ (A)
4. $\triangle RKM \cong \triangle RPO$
5. $\overline{RM} \cong \overline{RO}$

1. Given
2. Given
3. If $\triangle \rightarrow \triangle$
4. ASA (1, 2, 3)
5. CPCTC

#5 Given: $\overline{FH} \cong \overline{GJ}$
 $\triangle FJK$ is isosceles with $\overline{FK} \cong \overline{JK}$

Prove: $\triangle FKH \cong \triangle JKG$



Statements

Reasons

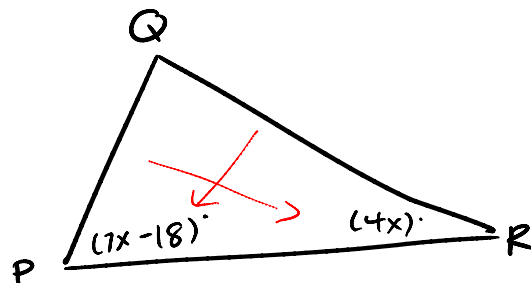
- 1.) $\overline{FH} \cong \overline{GJ}$ (S)
- 2.) $\triangle FJK$ isos, $\overline{FK} \cong \overline{JK}$ (S)
- 3.) $\angle HFK \cong \angle GJK$ (A)
- 4.) $\triangle FKH \cong \triangle JKG$

- 1.) Given
- 2.) Given
- 3.) If $\triangle \rightarrow \triangle$
- 4.) SAS (1, 3, 2)

#8 Given: $m\angle P + m\angle R < 180$

$PQ < QR$

Write an inequality to describe the restrictions on x .

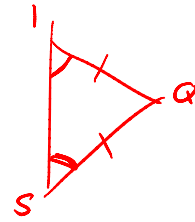
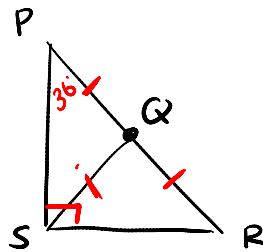


$$\begin{aligned} m\angle P + m\angle R &< 180 \\ 7x - 18 + 4x &< 180 \\ 11x - 18 &< 180 \\ 11x &< 198 \\ x &< 18 \end{aligned}$$

$$\begin{aligned} PQ &< QR \\ 4x &< 7x - 18 \\ -3x &< -18 \\ x &> 6 \end{aligned}$$

$$6 < x < 18$$

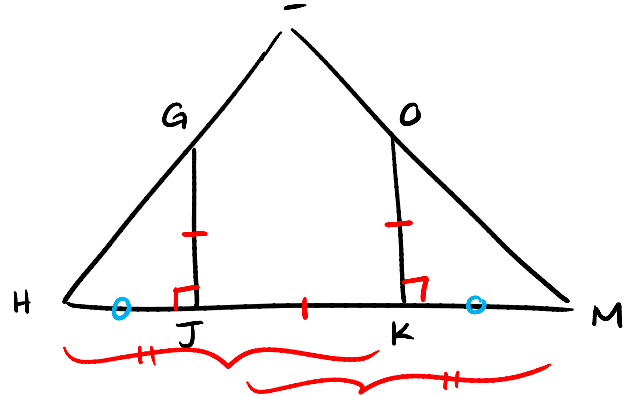
#12 Given: $\odot Q$
 $\overline{PS} \perp \overline{SR}$
 $\angle P = 36^\circ$



Find a) $\angle PSQ$ 36°
 b) $\angle R$ 54°

#15 $\overline{HK} \cong \overline{JM}$
 $\overline{GJ} \cong \overline{JK}$
 $\overline{OK} \cong \overline{JK}$
 \overline{GJ} and \overline{OK} are \perp to \overline{HM}

Prove: $\triangle FHM$ is isosceles



Statements

Reasons

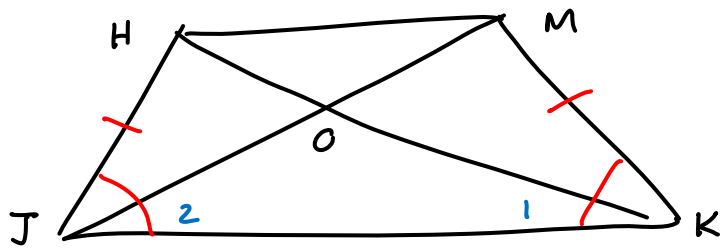
- 1.) $\overline{HK} \cong \overline{JM}$
- 2.) $\overline{GJ} \cong \overline{JK}$
- 3.) $\overline{OK} \cong \overline{JK}$
- 4.) $\overline{GJ} \cong \overline{OK}$ (S)
- 5.) \overline{GJ} and \overline{OK} are \perp to \overline{HM}
- 6.) $\angle GJH$ is a right \angle
- 7.) $\angle OKM$ is a right \angle
- 8.) $\angle GJH \cong \angle OKM$ (A)
- 9.) $\overline{HJ} \cong \overline{KM}$ (S)
- 10.) $\triangle HJG \cong \triangle MKO$
- 11.) $\angle H \cong \angle M$
12. $\triangle FHM$ is isosceles

- 1.) Given
- 2.) Given
- 3.) Given
- 4.) Transitive (If 2 segs are \cong to the same seg \rightarrow segs \cong)
- 5.) Given
- 6.) If 2 segs are $\perp \rightarrow$ form a right \angle
- 7.) Same as 6.
- 8.) If 2 \angle 's are right \angle 's $\rightarrow \angle$'s \cong
- 9.) If the same seg. is subtracted from \cong segs \rightarrow diffs. are \cong
- 10.) SAS (4, 8, 9)
- 11.) CPCTC
- 12.) If a \triangle has at least 2 $\cong \angle$'s $\rightarrow \triangle$ is isosceles

#19 Given: $\overline{HJ} \cong \overline{MK}$

$\angle HJK \cong \angle MKJ$

Conclusion: $\triangle JOK$ is isos.



1. $\overline{HJ} \cong \overline{MK}$ (S)

2. $\angle HJK \cong \angle MKJ$ (A)

3. $\overline{JK} \cong \overline{JK}$ (S)

4. $\triangle HJK \cong \triangle MKJ$

5. $\angle 1 \cong \angle 2$

6. $\triangle JOK$ is isos.

1. Given

2. Given

3. Reflexive Prop.

4. SAS (1, 2, 3)

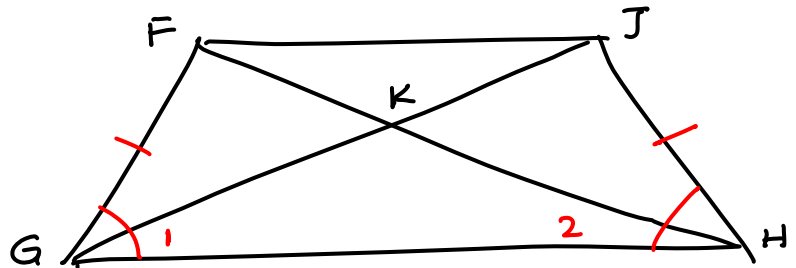
5. CPCTC

6. If at least 2 \angle 's of a \triangle are $\cong \rightarrow \triangle$ is isos.

#22 Given: $\overline{FG} \cong \overline{JH}$

$\angle FGH \cong \angle JHG$

Conc: $\triangle FKT$ is isos.



1. $\overline{FG} \cong \overline{JH}$ (S)

2. $\angle FGH \cong \angle JHG$ (A)

3. $\overline{GH} \cong \overline{GH}$ (S)

4. $\triangle FGH \cong \triangle JHG$

5. $\angle 1 \cong \angle 2$

6. $\overline{GK} \cong \overline{HK}$

7. $\overline{GJ} \cong \overline{FH}$

8. $\overline{KJ} \cong \overline{FK}$

9. $\triangle FKG$ is isos.

1. Given

2. Given

3. Reflexive prop.

4. SAS (1, 2, 3)

5. CPCTC

6. If $\triangle \rightarrow \triangle$

7. CPCTC

8. If \cong segs are subtracted from \cong segs \rightarrow diffs. are \cong

9. If at least 2 sides of a \triangle are $\cong \rightarrow \triangle$ is isos.

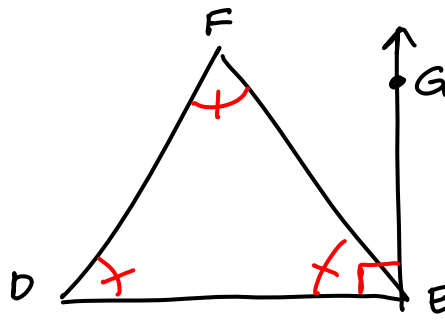
#25 $\triangle FED$ is equilateral

$$\overline{GE} \perp \overline{DE}$$

$$m \angle FEG = x + y$$

$$m \angle D = 3x - 6$$

$$m \angle F = 6y + 12$$



$$3x - 6 = 6y + 12$$

$$3x - 6y = 18$$

$$x + y + 3x - 6 = 90$$

$$4x + y = 96$$

$$3x - 6y = 18 \Rightarrow 3x - 6y = 18$$

$$6(4x + y = 96) \Rightarrow \underline{24x + 6y = 576}$$

$$27x = 594$$

$$\boxed{x = 22}$$

$$4(22) + y = 96$$

$$88 + y = 96$$

$$\boxed{y = 8}$$

$$\boxed{\angle F = 60^\circ}$$