

Geometry Review Sections 5.1/5.2 Parts/Segments in Δ 's

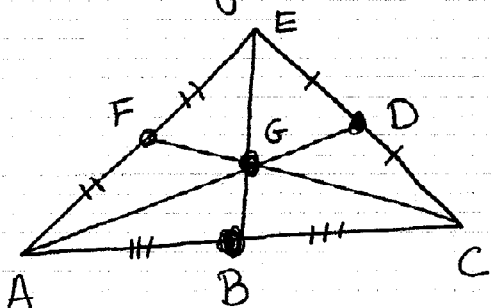


Diagram for #1-3

1) what is G called?

2) $AG = 10$; Find GD & AD .

3) $EB = 12x + 15$, $EG = 12x + 6$; Find GB .

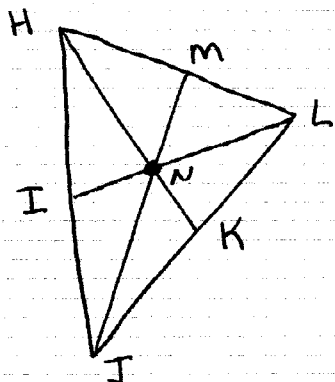
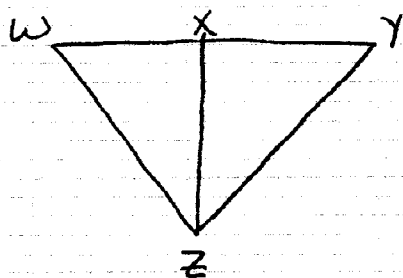


Diagram for #4

4) $m\angle HLJ = 20w - 16$, $m\angle JLI = 15w - 23$,
N is the incenter. Find measure of these $\angle$'s.

5) draw a Δ in which the point of concurrency of the $\perp$ bisectors is in the exterior of the Δ . what is this point called?

Proofs:



6) $G: \overline{ZX} \perp$ bisector of $\overline{WY}$

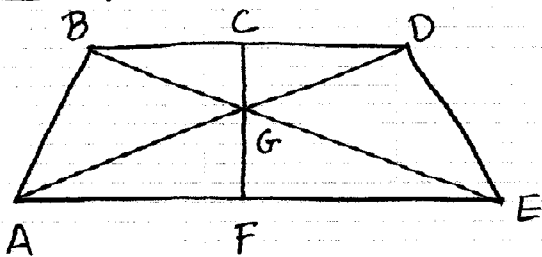
P: $\triangle WZX \cong \triangle YZX$

7) $G: \overline{ZX} \perp$ bisector of $\overline{WY}$

P: $\triangle WZX \cong \triangle YZX$



Proofs:

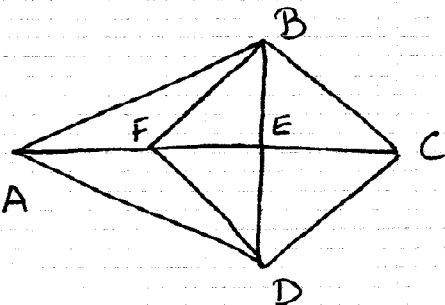


8) $G: \overline{CF} \perp$ bisector of $\overline{BD}$ & $\overline{AE}$

P: $\overline{AB} \cong \overline{ED}$

9) $G: \overline{CF} \perp$ bisector of $\overline{BD}$ & $\overline{AE}$

P: $\triangle ADE \cong \triangle EBA$



10) $G: \overline{AC}$ bisects $\angle BCD$

$\overline{BD} \perp \overline{AC}$

P: $\overline{FB} \cong \overline{FD}$

Answers:

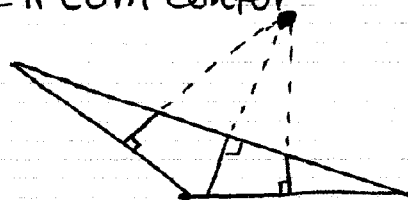
1) Centroid

2) $GD = 5$, $AD = 15$

3) $GB = 9$

4) $m\angle HJL = 44^\circ$, $m\angle JLI = 22^\circ$

5) Circum center



Answers:

6) Statements	Reasons
1) $\overline{ZX} \perp$ bis. $\overline{WY}$	1) given
2) $\overline{ZW} \cong \overline{ZY}$	2) $\perp$ bisector thm
3) $\angle W \cong \angle Y$	3) base $\angle$'s thm

7) Statements	Reasons
1) $\overline{ZX} \perp$ bis. $\overline{WY}$	1) given
2) $\overline{WX} \cong \overline{YX}$	2) def $\perp$ bis.
3) $\overline{XZ} \cong \overline{XZ}$	3) Reflex. prop.
4) $\overline{ZW} \cong \overline{ZY}$	4) $\perp$ bis. thm
5) $\triangle WZX \cong \triangle YZX$	5) SSS $\cong$ post

8) Statements	Reasons
1) $\overline{CF} \perp$ bis. $\overline{BD} \& \overline{AE}$	1) given
2) $\overline{GB} \cong \overline{GD}$	2) $\perp$ bis. thm
3) $\overline{GA} \cong \overline{GE}$	3) $\perp$ bis. thm
4) $\angle BGA \cong \angle DGE$	4) vert. $\angle$'s thm
5) $\triangle BGA \cong \triangle DGE$	5) SAS $\cong$ post.
6) $\overline{AB} \cong \overline{ED}$	6) CPCTC



Answers:

9) Statements

Reasons

1) $\overline{CF} \perp \text{bis. } \overline{BD} \ \& \ \overline{AE}$

1) given

2) $\overline{GB} \cong \overline{GD}$

2) $\perp$ bis. thm

3) $GB = GD$

3) def $\cong$

4) $\overline{GA} \cong \overline{GE}$

4) $\perp$ bis thm

5) $GA = GE$

5) def $\cong$

6) $GA + GB = GE + GB$

6) addition poe

7) $GA + GD = GE + GB$

7) substitution poe

8) $GA + GD = AD$

8) seg + post.

9) $GE + GB = BE$

9) seg. + post.

10) $AD = BE$

10) substitution poe

11) $\overline{AD} \cong \overline{BE}$

11) def $\cong$

12) $\angle GAF \cong \angle GEF$

12) base $\angle$'s thm (see line #4)

13) $\overline{AE} \cong \overline{AE}$

13) Reflex. poe.

14) $\triangle ADE \cong \triangle EBA$

14) SAS $\cong$ post.



Answers:

10) Statements

Reasons

1) $\overline{AC}$ bis $\angle BCD$

1) given

2) $\angle BCE \cong \angle DCE$

2) def $\angle$ bis.

3) $\overline{EC} \cong \overline{EC}$

3) Reflex. prop.

4) $\overline{BD} \perp \overline{AC}$

4) given

5) $\angle BEC \cong \angle DEC$ right $\angle$'s

5) 2 $\perp$ lines intersect to form 4 right $\angle$'s

6) $\angle BEC \cong \angle DEC$

6) all right $\angle$'s are $\cong$

7) $\triangle BEC \cong \triangle DEC$

7) ASA $\cong$ post.

8) $\overline{BE} \cong \overline{DE}$

8) CPCTC

9) $\overline{AC} \perp$ bis. of $\overline{BD}$

9) def $\perp$ bis.

10) $\overline{FB} \cong \overline{FD}$

10) $\perp$ bis. thm