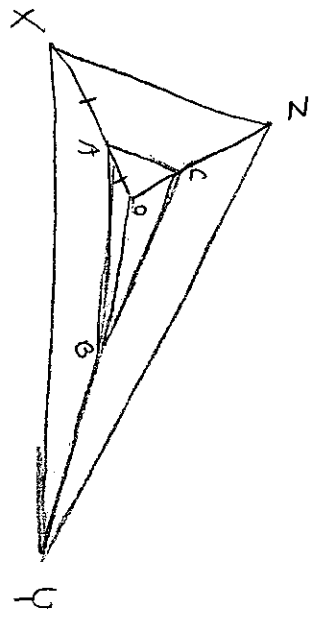


18 Given: A is midpt. of \overline{DX}
 $\overline{AE} \parallel \overline{XP}$; $\overline{BC} \parallel \overline{YZ}$

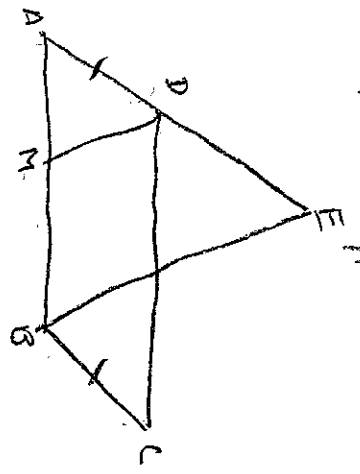
Prove: $\overline{AC} \parallel \overline{XZ}$



1. A is midpt. of \overline{DX}
2. B is midpt. of \overline{DY}
3. C is midpt. of \overline{DZ}
4. $\overline{AC} \parallel \overline{XZ}$

19 Given: $\square ABCD$; $\overline{BE} \parallel \overline{MD}$
 M is midpt. of \overline{AB}

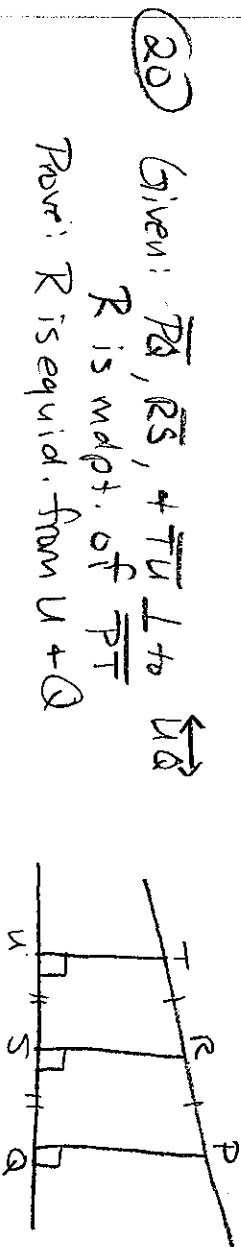
Prove: $DE = BC$



1. $\square ABCD$; $\overline{BE} \parallel \overline{MD}$
2. M is midpt. of \overline{AB}
3. $\overline{AD} \cong \overline{BC}$
4. $\overline{DE} \cong \overline{AD}$
5. $\overline{DE} \cong \overline{BC}$
6. $DE = BC$

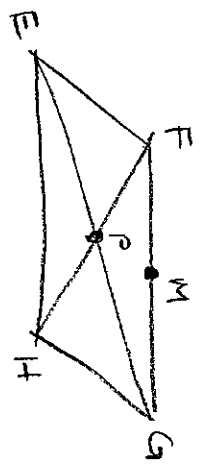
1. Given
2. line through midpt. of 1 side Δ + is \parallel to a side \rightarrow through midpt. of 3rd side.
3. line through midpt. of 1 side Δ + is \parallel to a side \rightarrow through midpt. of 3rd side
4. segment through midpt. of 2 sides of Δ is \parallel to 3rd side

1. Given
2. A line through midpt. of 1 side of Δ + \parallel to a side goes through midpt. of 3rd side
3. opp. sides $\square \cong$
4. def. midpt.
5. Transitive
6. Def. \cong



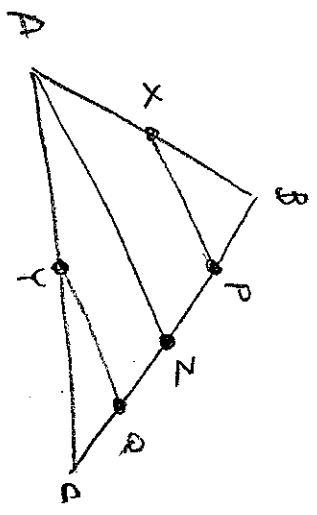
1. R is mdpt. of \overline{PT}
 2. $\overline{TR} \cong \overline{RP}$
 3. $\overline{PA}, \overline{RS} + \overline{TU} \perp$ to \overleftrightarrow{UQ}
 4. $\overline{TU} \parallel \overline{RS} \parallel \overline{PA}$
 5. $\overline{US} \cong \overline{SA}$
 6. \overline{RS} is \perp bis. of \overline{UA}
 7. R is equid. from $U + Q$
-
1. Given
 2. def. mdpt.
 3. Given
 4. lines \perp to same line \parallel to each other
 5. 3 \parallel lines cut off \cong segments
 - in 1 transv. $\rightarrow \cong$ segm. in all transv.
 6. def. \perp bis.
 7. Pt. on \perp bis. of a seg. is equid. from endpoints of seg

21 Given: $\square EFGH$ is \square whose diag intersect @ P
 M is mdpt. of \overline{FG}
 Prove: $MP = \frac{1}{2} EF$



1. $\square EFGH$, M is mdpt. of \overline{FG}
 2. $\overline{EG} + \overline{FH}$ bisect each other
 3. P is mdpt. of \overline{EG}
 4. $MP = \frac{1}{2} EF$
-
1. Given
 2. diag. \square bis. each other
 3. def. bisect
 4. Segment joining the mdpts. of 2 sides of Δ is $\frac{1}{2}$ as long as 3rd side

23) ~~Given~~
 $X, Y + Z$ are midpts. of $\overline{AB}, \overline{AC} + \overline{BC}$
 P is midpt. of \overline{BC}
 Q is midpt. of \overline{AC}
 Prove: $PX = QY$



1. Given

- $X, Y + Z$ are midpts. of $\overline{AB}, \overline{AC} + \overline{BC}$
 P is midpt. of \overline{BC}
 Q is midpt. of \overline{AC}
- $QP = \frac{1}{2} AC$; $PX = \frac{1}{2} AC$
- $PX = QY$

2. Seg. joining midpts. of 2 sides of $\Delta = \frac{1}{2}$ length of 3rd side
3. Substitution

24) Given: D is midpt. of \overline{AB}
 E is midpt. of \overline{CD}
 $\overline{DG} \parallel \overline{EF}$
 Prove: $BG = GF = FC$

