

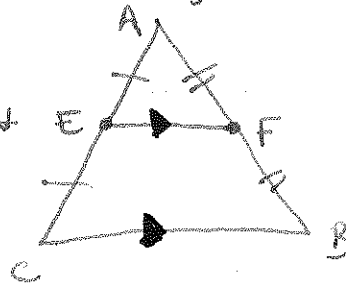
5.1 Midsegments of Triangles

Theorem 5-1 Triangle Midsegment Theorem

* If a segment joins the midpoints of two sides of a triangle, then the segment is \parallel to the third side, and is half its length.

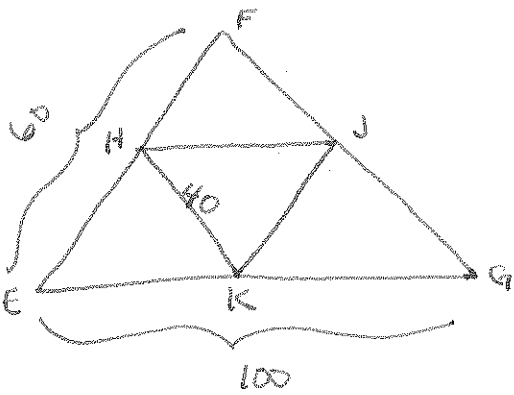
Midsegment - a midsegment of a Δ is a segment connecting the midpoints of two sides

\overline{EF} is a midsegment of ΔABC



Example 1

In ΔEFG , H, J, and K are midpoints. Find HJ, JK, and FG. Which sides must be \parallel ?



$$HJ = 50$$

$$JK = 30$$

$$FG = 80$$

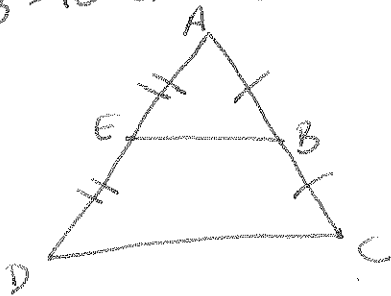
$$\overline{FG} \parallel \overline{HK}$$

$$\overline{EG} \parallel \overline{HJ}$$

$$\overline{EF} \parallel \overline{KJ}$$

Example 2

$AB = 10$ and $CD = 18$. Find EB , BC , and AC .
What are the midpoints?
What sides are \parallel ?



$$BC = 10$$

$$AC = 20$$

$$EB = 9$$

midpoints are E, B

$$\overline{EB} \parallel \overline{DC}$$