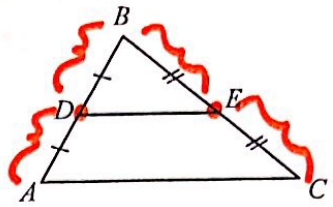
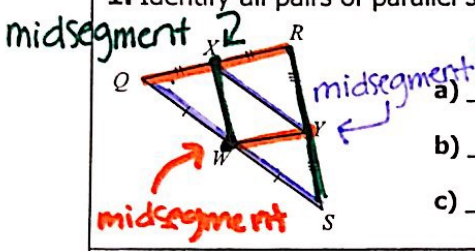
Name:	Date:
Topic:	Class:

Main Ideas/Questions	Notes/Examples
TRIANGLE MIDSEGMENT	• A **midsegment of a triangle** is a segment connecting the midpoints of two sides of the triangles. • Example: $\overline{DE}$ 
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 half as long. Using the diagram above, if $\overline{DE}$ is a midsegment of ΔABC, then: 1) $\overline{DE} \parallel \overline{AC}$ 2) $DE = \frac{1}{2}(AC)$ $2 \cdot (DE) = AC$

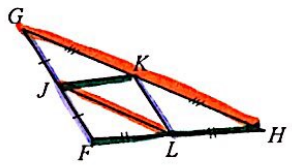
EXAMPLES!

1. Identify all pairs of parallel segments.



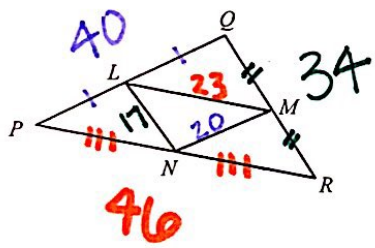
a) $\overline{WY} \parallel \overline{QR}$
b) $\overline{XW} \parallel \overline{RS}$
c) $\overline{XY} \parallel \overline{QS}$

2. Identify all pairs of parallel segments.



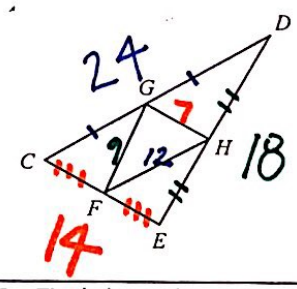
a) $\overline{JL} \parallel \overline{GH}$
b) $\overline{JK} \parallel \overline{FH}$
c) $\overline{KL} \parallel \overline{GF}$

3. If L, M, and N are the midpoints of the sides of ΔPQR, $PR = 46$, $PQ = 40$, and $LN = 17$, find each measure.



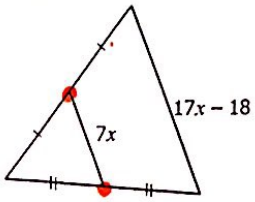
a) $LM =$ 23
$LM = \frac{1}{2}(PR)$
b) $MN =$ 20
$MN = \frac{1}{2}(PQ)$
c) $QR =$ 34
$QR = 2(LN)$
d) $MR =$ 17
$MR = \frac{1}{2}(QR)$

4. If F, G, and H are the midpoints of the sides of ΔCDE, $FG = 9$, $GH = 7$, and $CD = 24$, find each measure.



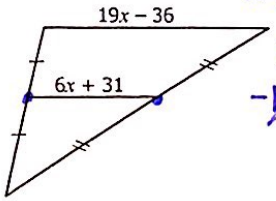
a) $CE =$ 14
b) $DE =$ 18
c) $FH =$ 12
d) Perimeter of ΔCDE: 56
$14 + 18 + 12 = 56$

5. Find the value of x.



$2(7x) = 17x - 18$
$14x = 17x - 18$
$-17x \quad -17x$
$\frac{-3x}{-3} = \frac{-18}{-3}$
$\boxed{x = 6}$
↳ midsegment!

6. Find the value of x.



$2(6x + 31) = 19x - 36$
$12x + 62 = 19x - 36$
$-12x \quad -12x$
$62 = 7x - 36$
$+36 \quad +36$
$\frac{98}{7} = \frac{7x}{7}$
$\boxed{14 = x}$