

**GEOMETRY
HONORS
CLASS NOTES**

Name: _____

Section: 3.7 Period: _____ Date: _____

Key Question: _____

Questions/ Main
Ideas:

Warm-up:

a. If M is the midpoint of \overline{AB} and $MA=7$, then $AB=$ _____ and $MB=$ _____. (Hint: Draw it!)

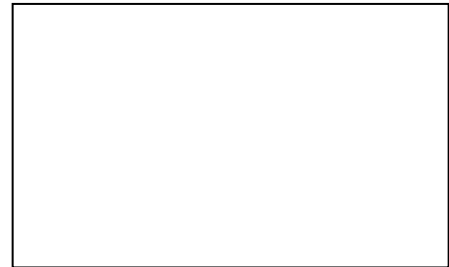
b. If the average of x and 20 is 16.25, what is x ?

Notes:

- A _____ **of a triangle** is a segment whose endpoints are midpoints of two sides of the triangle. A midsegment is parallel to the third side of the triangle and half as long as that parallel side.

Example 1

In $\triangle PQR$, L , M , and N are the midpoints of \overline{PQ} , \overline{QR} , and \overline{PR} , respectively. Sketch the figure and connect the midpoints.



a. Name each midsegment of $\triangle PQR$ and the side of $\triangle PQR$ to which the midsegment is parallel.

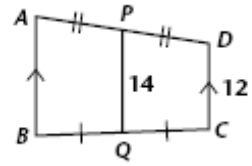
b. If $PQ = 10$, $QR = 8$, and $PR = 12$, find the length of each midsegment.

- The _____ **of a trapezoid** is the segment joining the endpoints of the nonparallel sides. The midsegment of a trapezoid is parallel to the bases. Its length is half the sum of the lengths of the bases.

Example 2

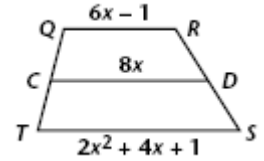
Find the indicated measure.

AB = _____



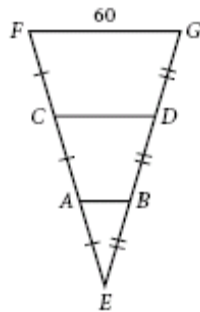
Example 3

C and D are the midpoints of \overline{QT} and \overline{RT} , respectively. Find the value of x and the lengths of \overline{QR} , \overline{TS} , and \overline{CD} .



Example 4

Find the indicated measure.



AB = _____

CD = _____

Summary: _____
