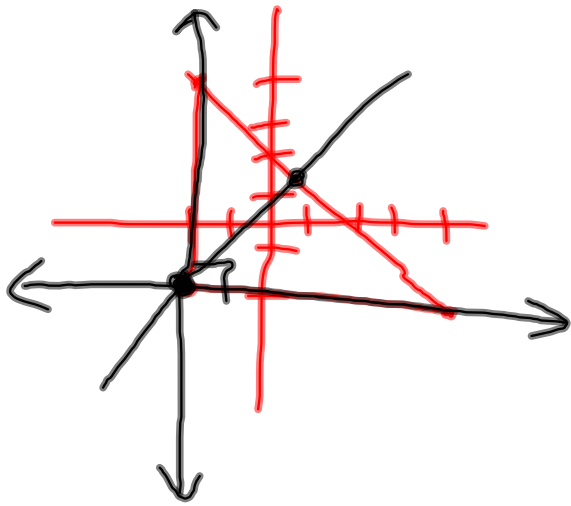
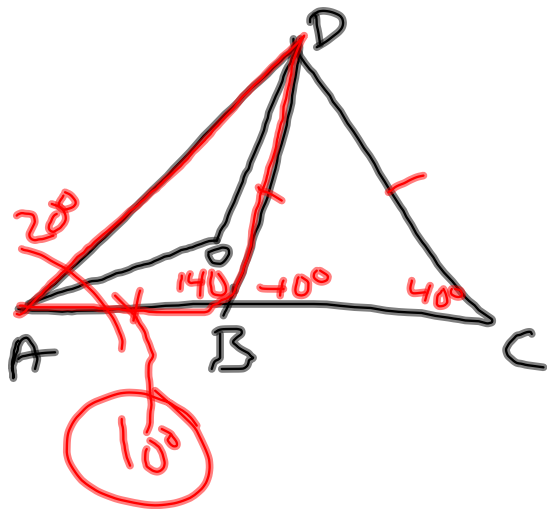


7.

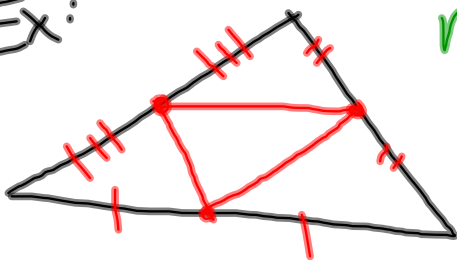




5.4 \triangle Midsegment Theorem

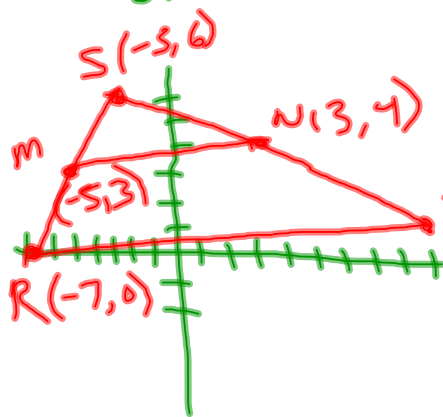
Midsegment: segment that joins the midpoints of sides of a \triangle .

Ex:



midsegments & opposite sides are parallel

Ex: The vertices of $\triangle RST$ are $R(-7,0)$ $S(-3,6)$ + $T(9,2)$.



show that \overline{MN} is the midsegment if M + N are the midpoints.

Find M

$$\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$$

$$\left(\frac{-3 + -7}{2}, \frac{6 + 0}{2} \right)$$

$$\left(\frac{-10}{2}, \frac{6}{2} \right)$$

$$(-5, 3)$$

Find N

$$\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$$

$$\left(\frac{-3 + 9}{2}, \frac{6 + 2}{2} \right)$$

$$\left(\frac{6}{2}, \frac{8}{2} \right)$$

$$(3, 4)$$

Slope \overline{MN}

$$m = \frac{y_1 - y_2}{x_1 - x_2}$$

$$= \frac{3 - 4}{-5 - 3}$$

$$= \frac{-1}{-8}$$

$$= \frac{1}{8}$$

Slope \overline{RT}

$$m = \frac{y_1 - y_2}{x_1 - x_2}$$

$$= \frac{0 - 2}{-7 - 9}$$

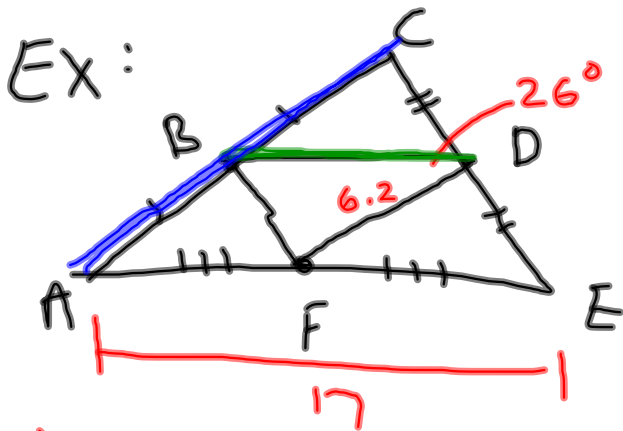
$$= \frac{-2}{-16}$$

$$= \frac{1}{8}$$

$(-7, 0)$
 $(9, 2)$

△ Midsegment thm

a midsegment of a \triangle is parallel to the opposite side of the \triangle and its length is $\frac{1}{2}$ the length of the opposite side.



A) Find BD

$$\frac{1}{2} 17 = 8.5$$

B) AC

$$2 \cdot 6.2 = 12.4$$

Hw:

p. 324

2-34 even,

odds extra credit