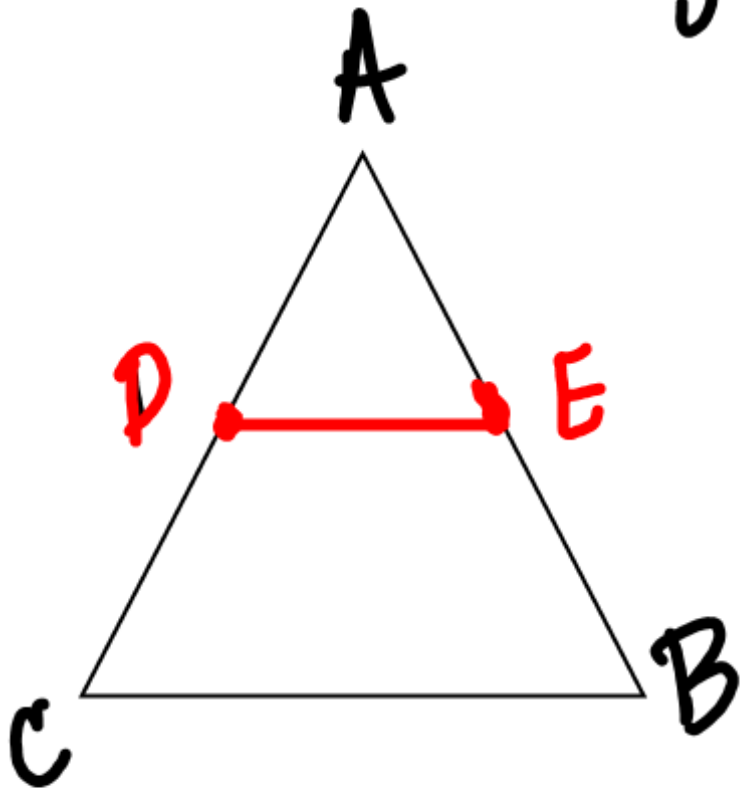
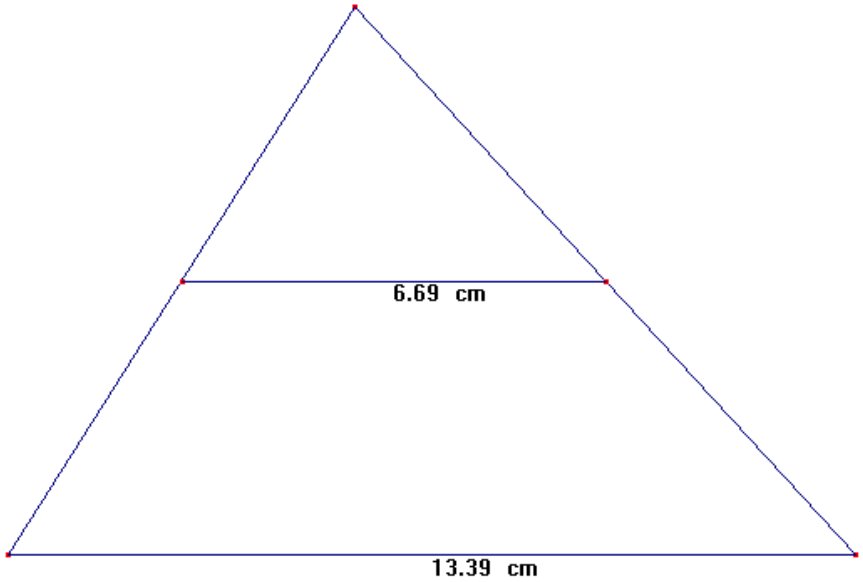
3.7 Midsegments



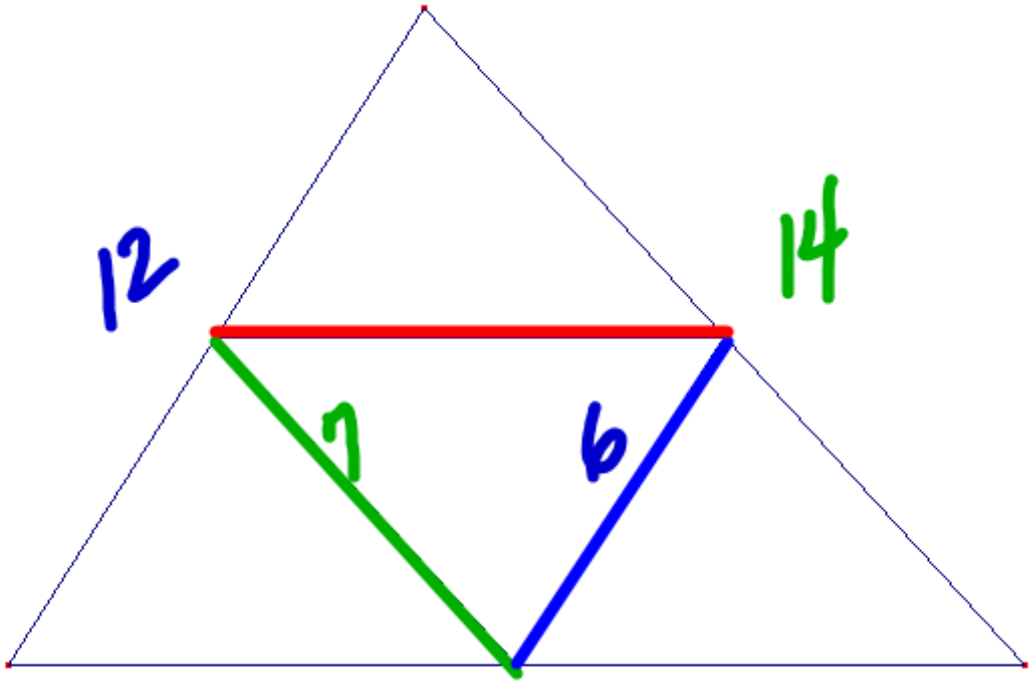
D is the midpoint of $\overline{AC}$

E is the midpoint of $\overline{AB}$

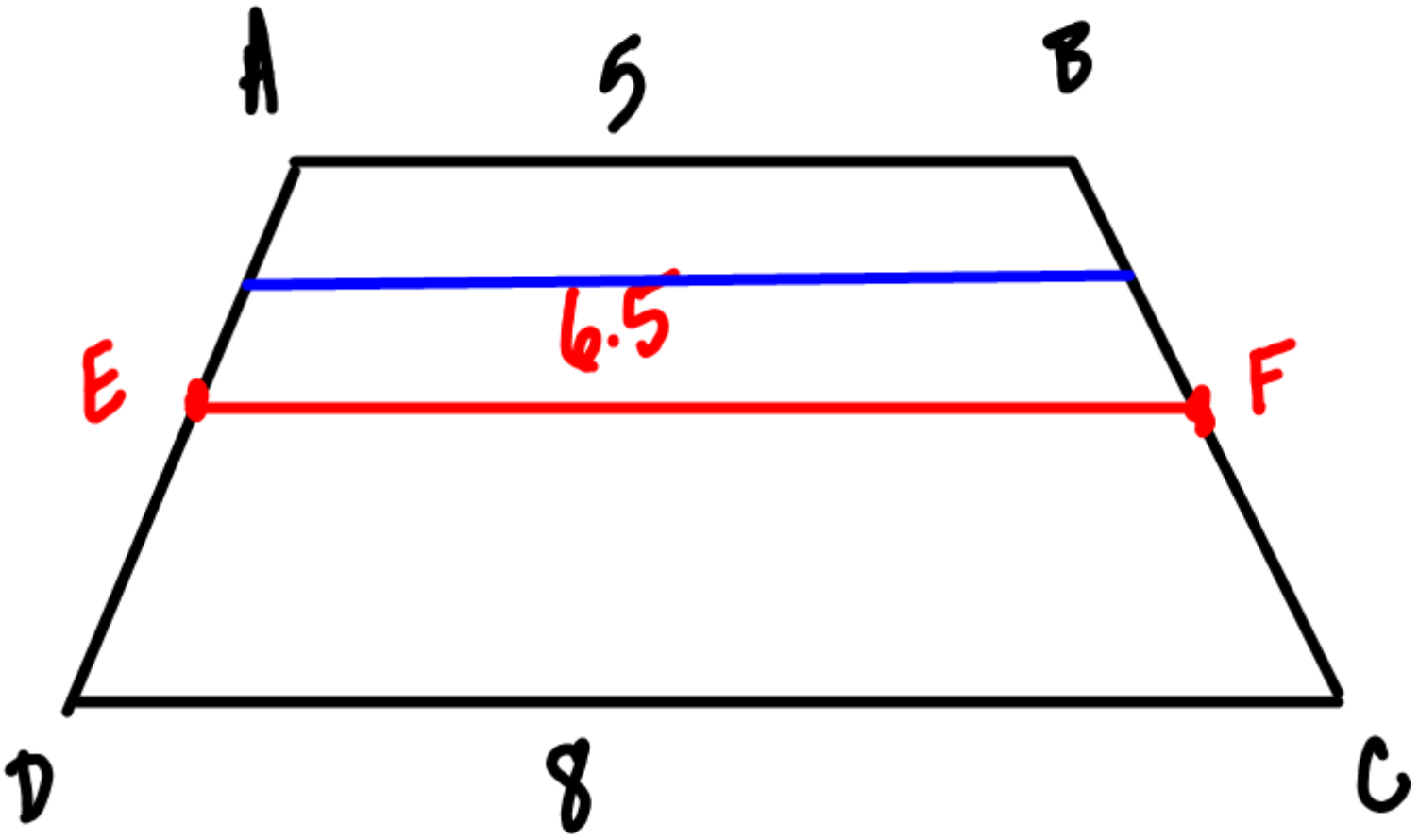
$\overline{DE}$ is the midsegment



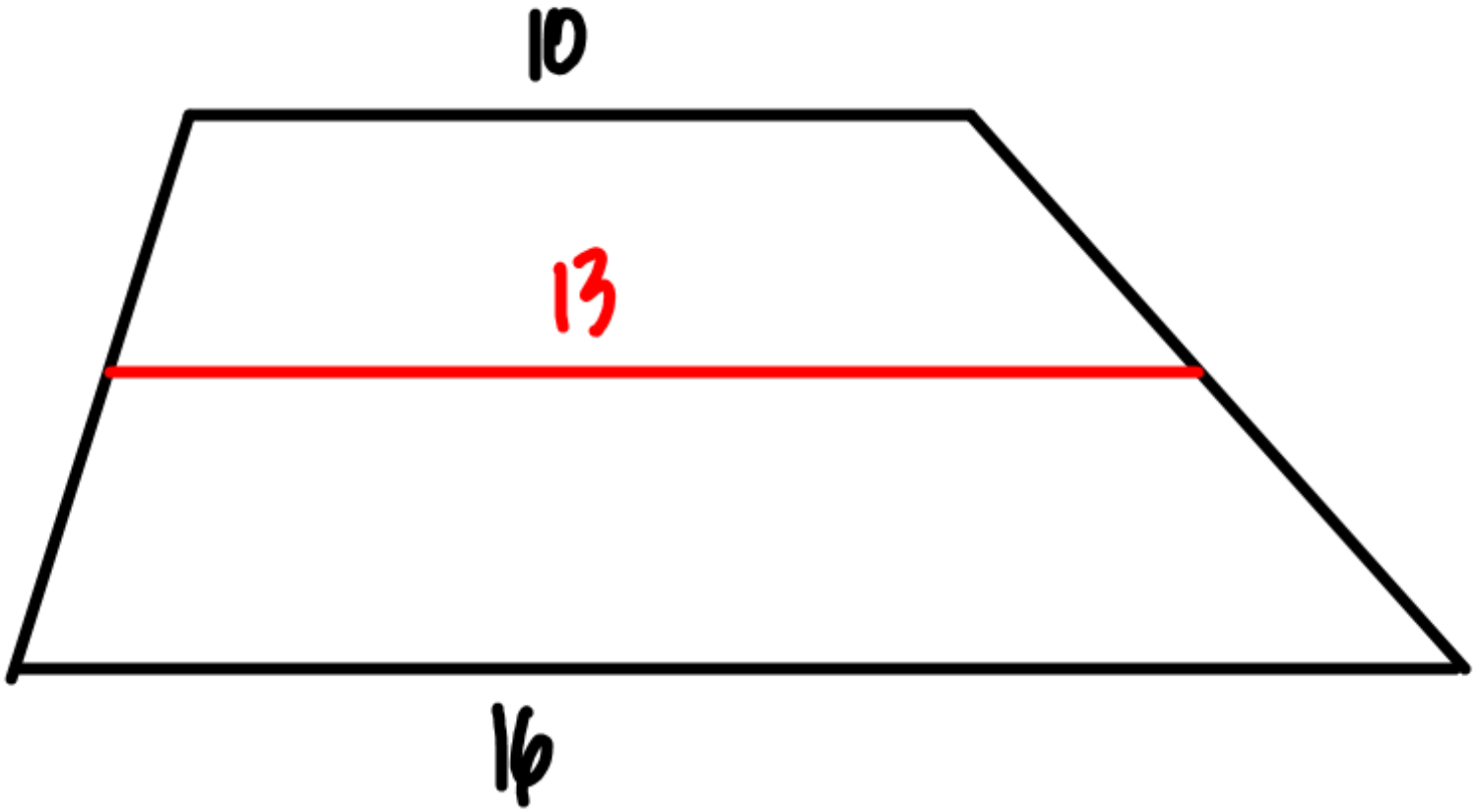
The midsegment of a triangle is parallel to a side of the triangle and has a measure equal to one half of that side.


12
14
7
6

Midsegment



$\frac{5+8}{2}$ $\frac{13}{2} = 6.5$



2. $\frac{10+x}{2} = 13$ ·2

$-10 \quad -10$

$10+x = 26$

The Midsegment of a trapezoid is parallel to the bases of the trapezoid and has a measure equal to the average of the two bases.

15. $\frac{x^2+x-2+x^2+3x-12}{2} = 8$

$\frac{2x^2+4x-14}{2} = 8$

$x^2+2x-7 = 8$ $\quad -8 \quad -8$

$x^2+2x-15=0$

$(x-3)(x+5)=0$

$x-3=0$ $\quad x+5=0$

$x=3$ $\quad x=-5$

FG $\quad 3^2+3-2$

$9+3-2$

10

FG = 10