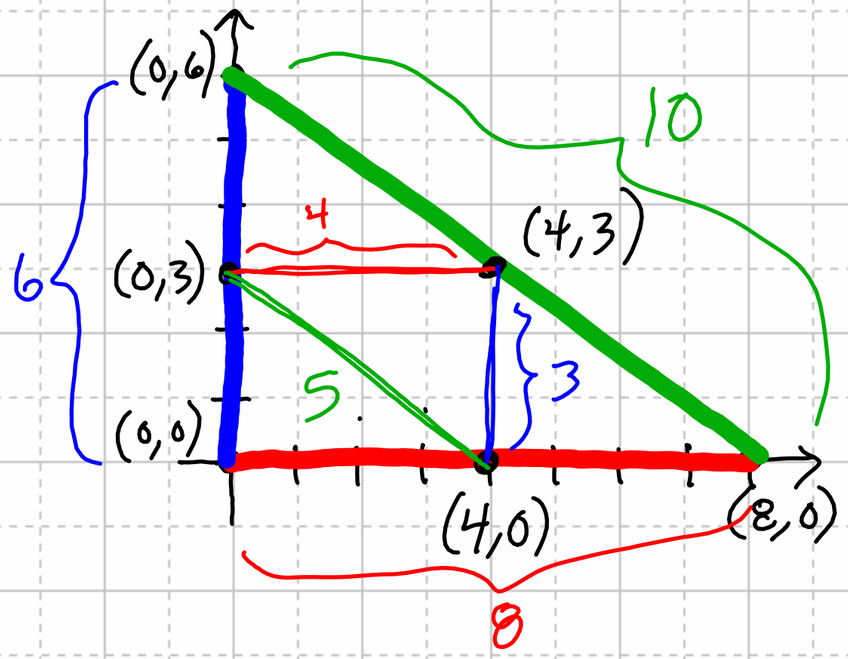
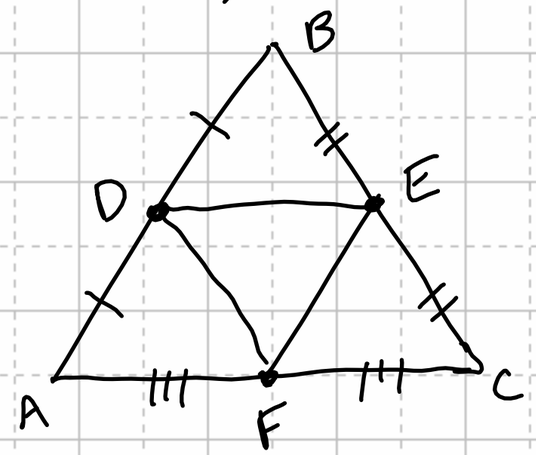
Midsegments of Triangles



- midsegment → connects midpoints of 2 sides of triangle

↳ $\frac{1}{2}$ length of side parallel to it

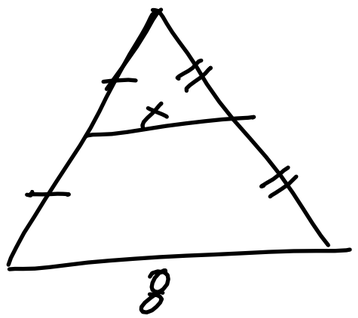


$\overline{DE} \parallel \overline{AC}$ $\quad DE = \frac{1}{2}AC$

$\overline{EF} \parallel \overline{AB}$ $\quad EF = \frac{1}{2}AB$

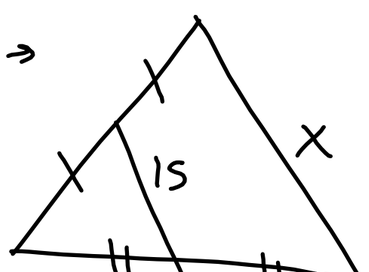
$\overline{DF} \parallel \overline{BC}$ $\quad DF = \frac{1}{2}BC$

EX →



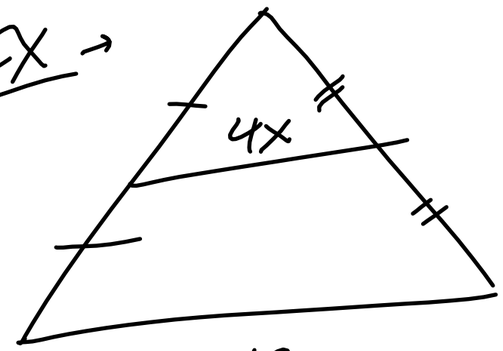
$x = \frac{1}{2}(8) = 4$

EX →



$x = 2 \cdot 15 = 30$

EX →

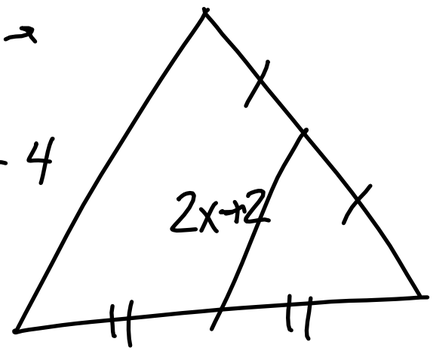


$4x = \frac{1}{2}(48)$

$4x = 24$

$x = 6$

EX →



$2x+2 = \frac{1}{2}(6x-4)$

$2x+2 = 3x-2$

$4 = x$

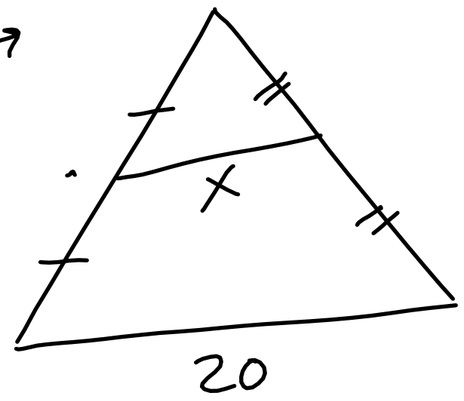
or $6x-4 = 2(2x+2)$

$6x-4 = 4x+4$

$2x = 8$

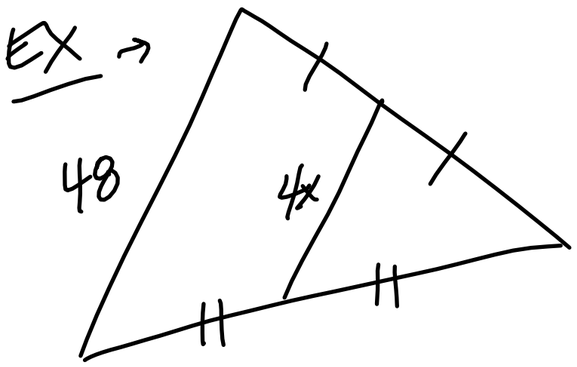
$x = 4$

EX →



$x = \frac{1}{2}(20) = 10$

EX →

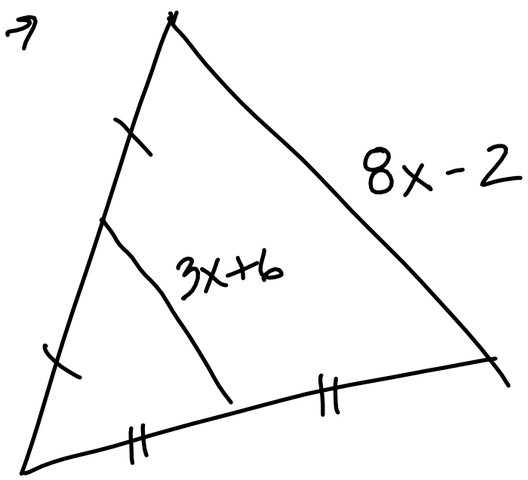


$4x = \frac{1}{2}(48)$

$4x = 24$

$x = 6$

EX →



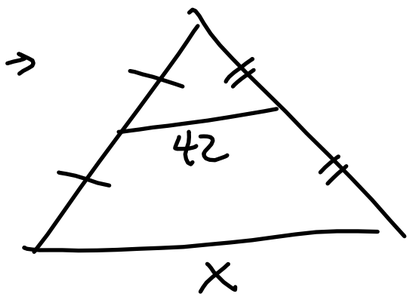
$2(3x+6) = 8x-2$ OR $3x+6 = \frac{1}{2}(8x-2)$

$6x+12 = 8x-2$ $3x+6 = 4x-1$

$14 = 2x$ $7 = x$

$7 = x$

EX →



$x = 2(42) = 84$

HW: p. 288 → 7-26, 31-36, 38-44 even