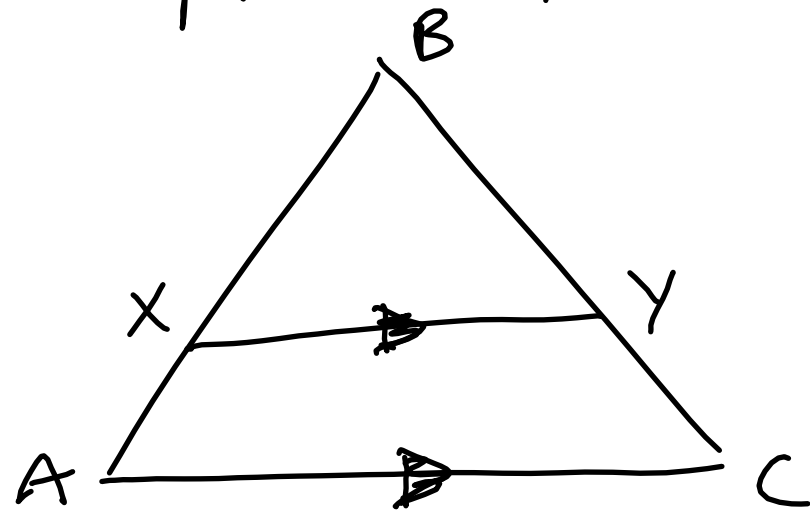


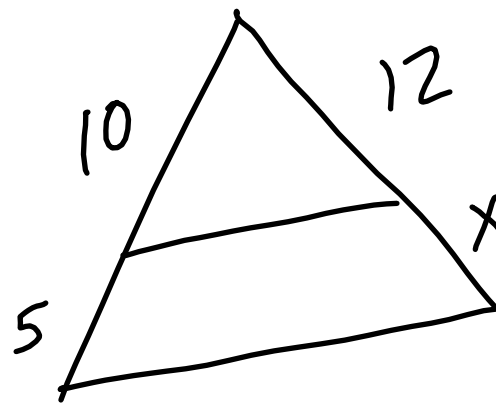
Proportions in Triangles

- Side-Splitter Theorem



$$\text{If } \overline{XY} \parallel \overline{AC}, \frac{AX}{XB} = \frac{CY}{YB}$$

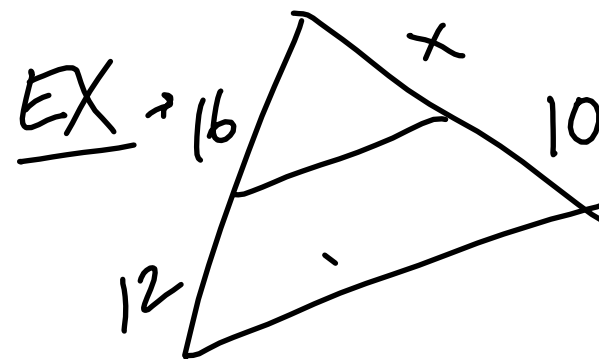
EX →



$$\frac{2}{10} \cdot \frac{12}{x} = \frac{12}{x}$$

$$2x = 12$$

$$x = 6$$



$$\frac{4}{12} \cdot \frac{16}{x} = \frac{x}{10}$$

$$3x = 40$$

$$x = \frac{40}{3}$$

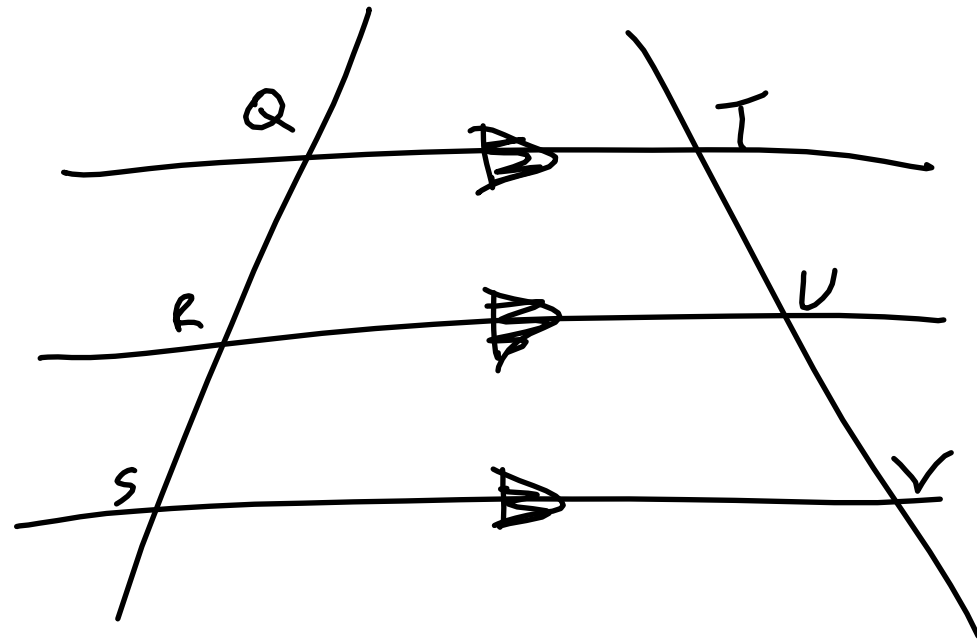


$$\frac{20}{x} = \frac{30}{15} \cdot \frac{2}{1}$$

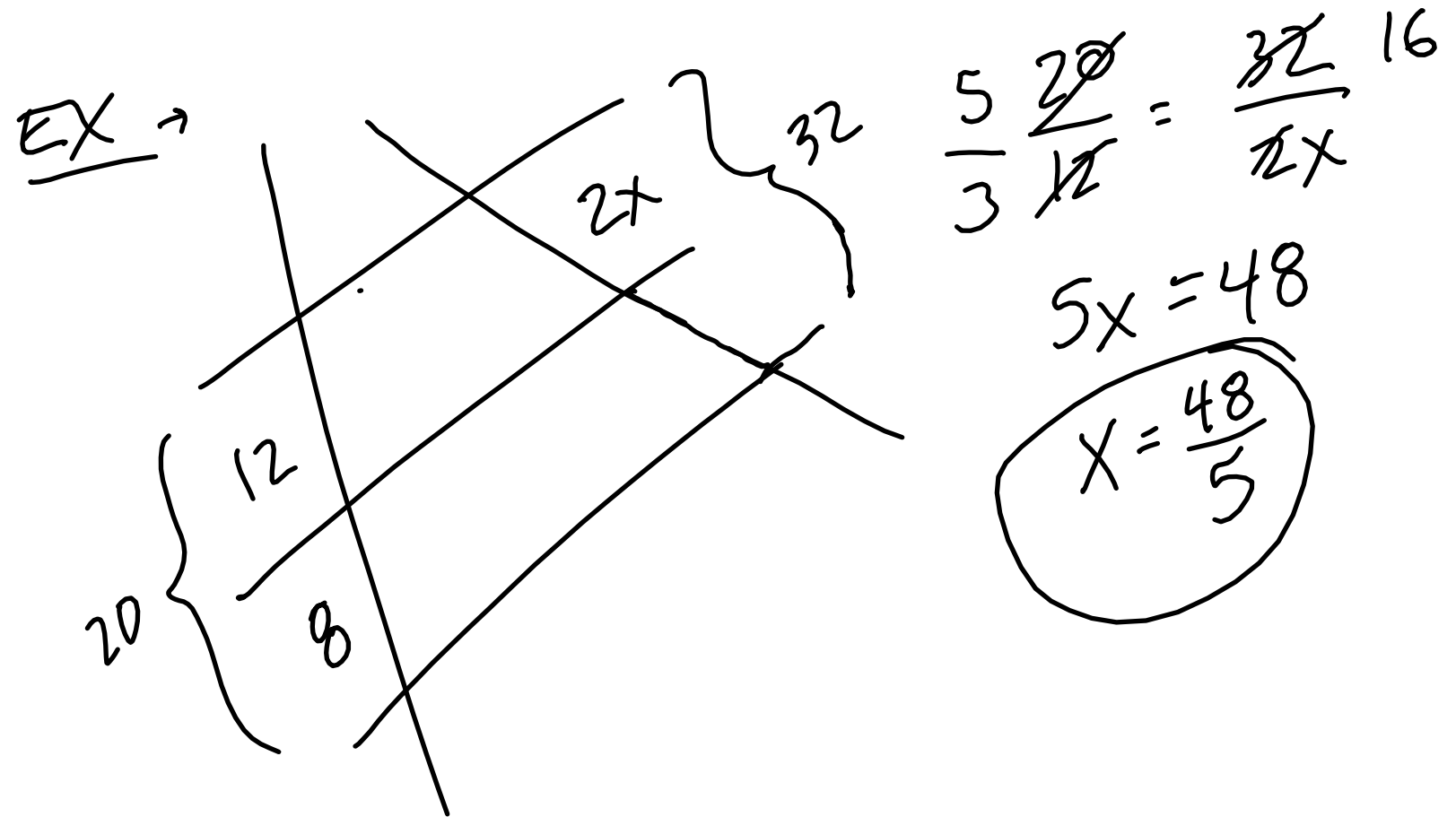
$$2x = 20$$

$$x = 10$$

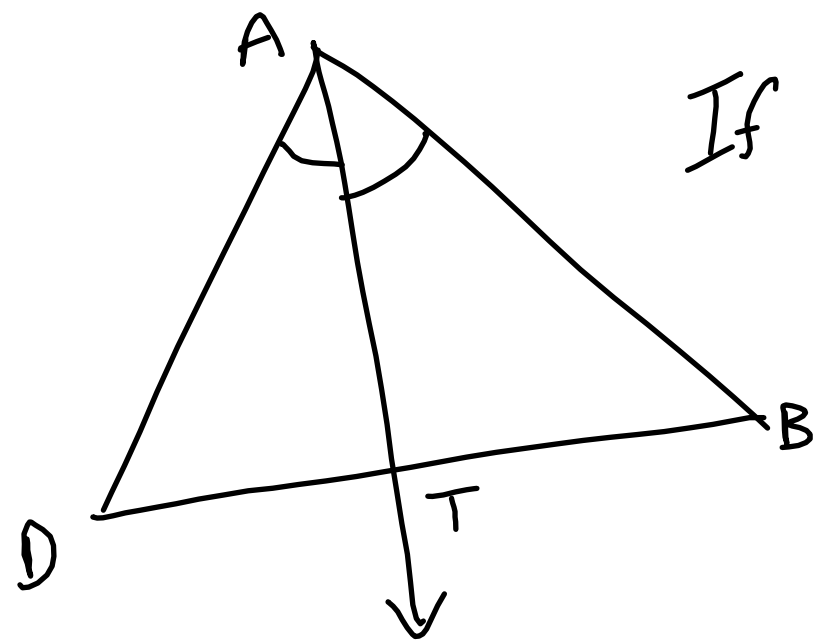
- Corollary to Side-Splitter Theorem



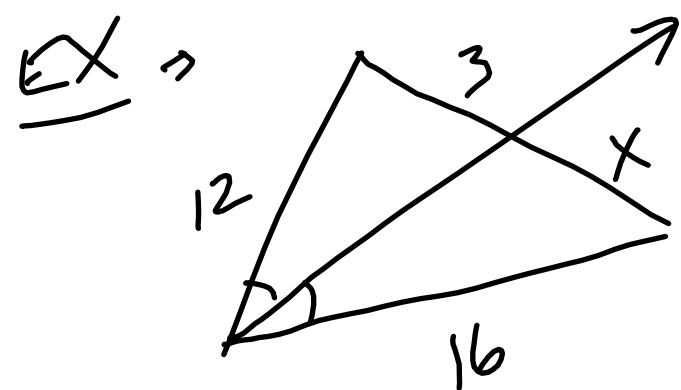
If $\overline{QT} \parallel \overline{RU} \parallel \overline{SV}$, then $\frac{QR}{RS} = \frac{TU}{UV}$



- Triangle-Angle Bisector Theorem



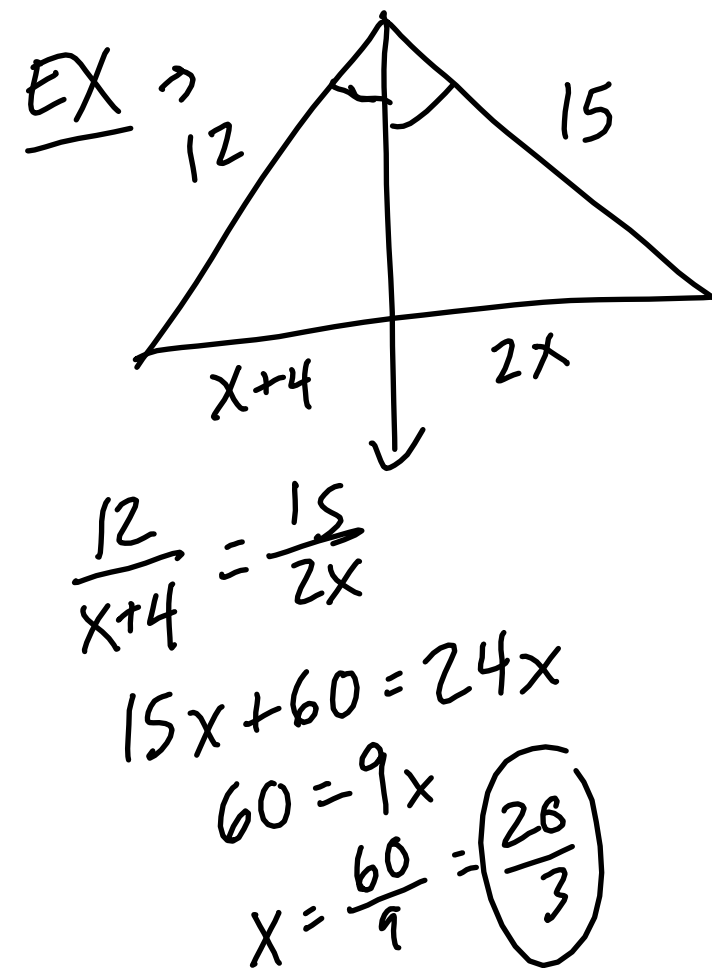
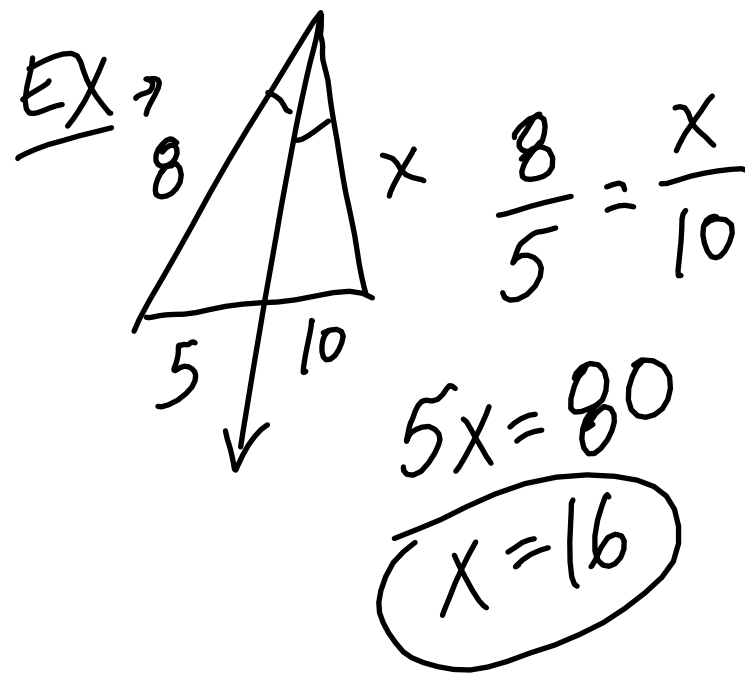
If \overrightarrow{AT} bisects $\angle DAB$, then $\frac{AB}{TB} = \frac{AD}{DT}$



$$\frac{4}{1} \frac{12}{3} = \frac{16}{x}$$

$$4x = 16$$

$$x = 4$$



HW: p. 475 → 9-22, 25-34, 38