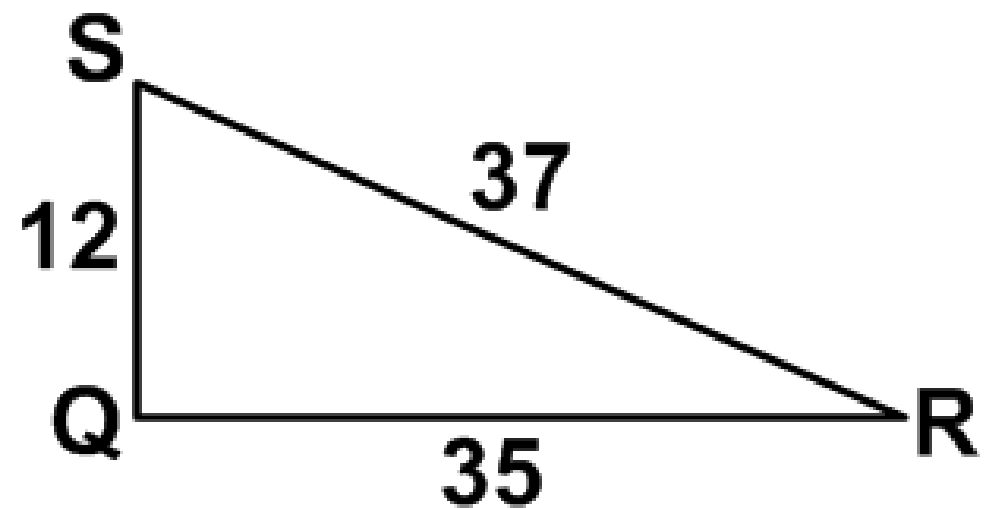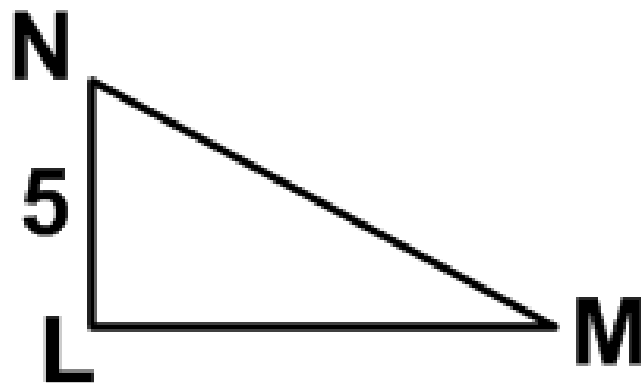# 6 - 5
Parts of Similar Triangles

Theorem 6.7:
(Proportional Perimeters Theorem)

If two triangles are similar, then the perimeters are proportional to the measures of the corresponding sides.

Ex: If $\triangle LMN \sim \triangle QRS$, QR = 35, RS = 37, SQ = 12, and NL = 5, find the perimeter of $\triangle LMN$.

$$\frac{5}{12} = \frac{x}{84}$$

$$12x = 420$$

$$\boxed{x = 35}$$
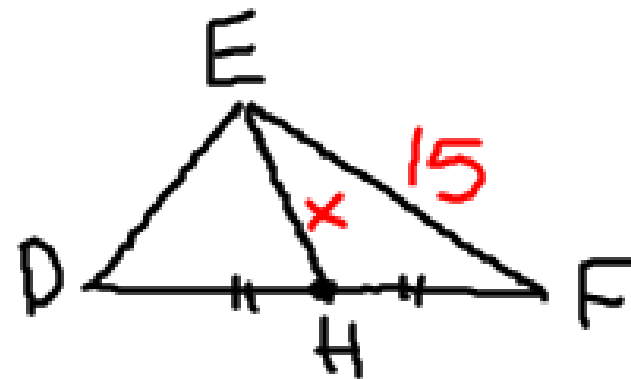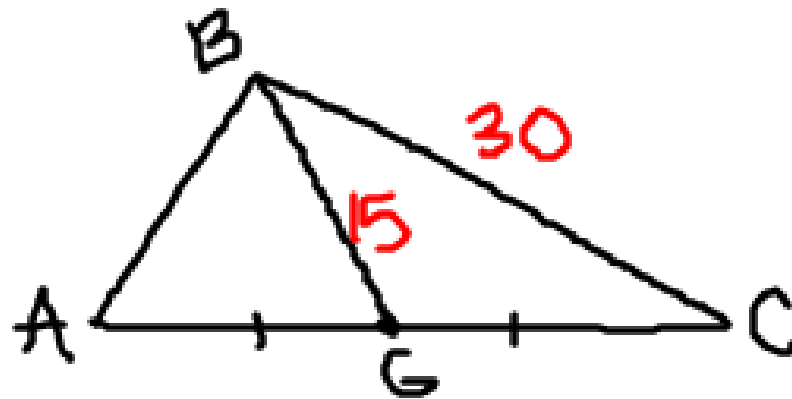
Proportional to Sides

perimeters
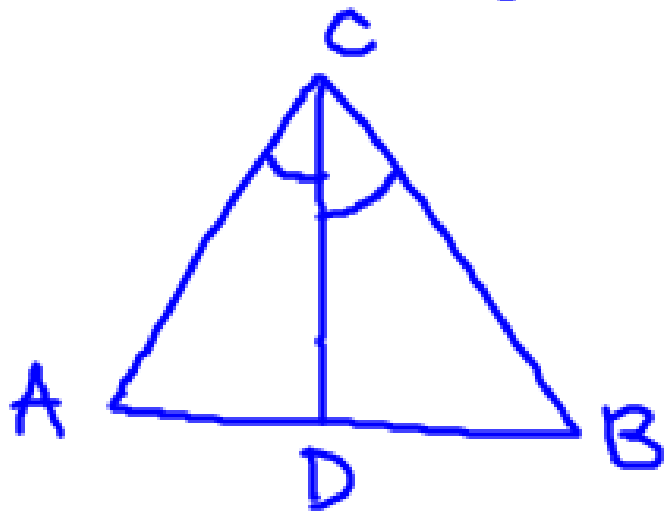altitudes

angle bisectors

medians

Ex: $\triangle ABC \sim \triangle DEF$. $\overline{BG}$ is a median of $\triangle ABC$, and $\overline{EH}$ is a median of $\triangle DEF$. Find EH if BC = 30, BG = 15, and EF = 15.

x = 7.5

Thm 6.11

(Angle Bisector Thm.)

$$\frac{AC}{BC} = \frac{AD}{BD}$$

← from A

← from B

Homework:

6 - 5 WS