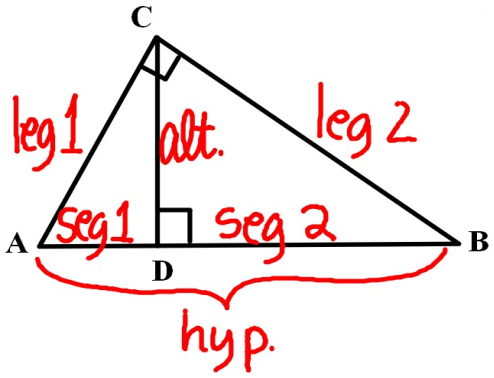
A leg of a right triangle is the geometric mean between the hypotenuse and the segment of the hypotenuse adjacent to that leg.

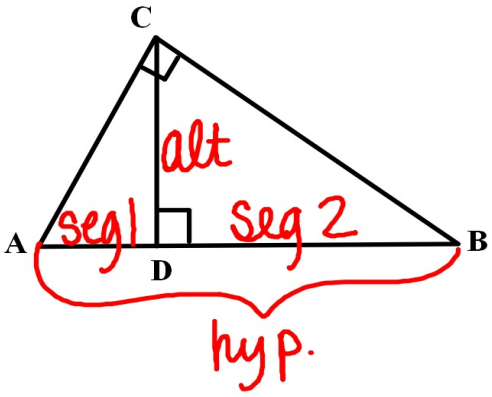


$\frac{hyp}{leg\,1} = \frac{leg\,1}{seg\,1}$ $\frac{hyp}{leg\,2} = \frac{leg\,2}{seg\,2}$

$\Delta ABC \sim \Delta ACD$ $\Delta ABC \sim \Delta CBD$

$\frac{AB}{AC} = \frac{AC}{AD}$ $\frac{AB}{CB} = \frac{CB}{DB}$

The altitude to the hypotenuse of a right triangle is the geometric mean between the segments of the hypotenuse.



$\frac{Seg\,1}{alt} = \frac{alt}{Seg\,2}$

$\Delta ACD \sim \Delta CBD$

$\frac{AD}{CD} = \frac{CD}{BD}$

Law of Sines (for non-right triangles)