Section 1.2 Similar Triangles

Properties of Triangles

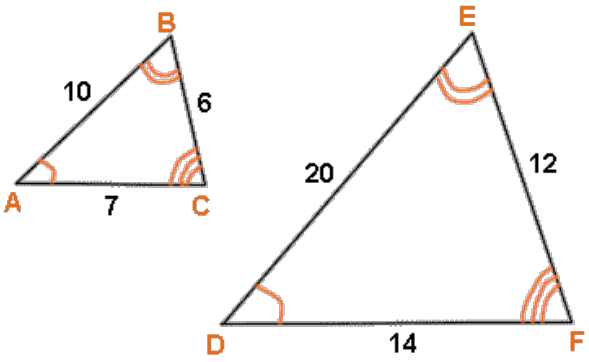
The sum of the measures of the angles of any triangle is $180°$.

Example: The measure of two of the angles of a triangle are $136° 50'$ and $41° 38'$. Find the measure of the third angle.

Similar triangles are triangles of exactly the same shape but not necessarily the same size.

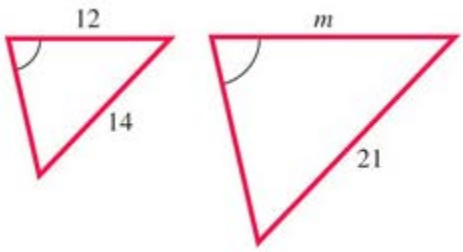
In similar triangles,

1) Corresponding angles have the same measure 2) Corresponding sides must be proportional.

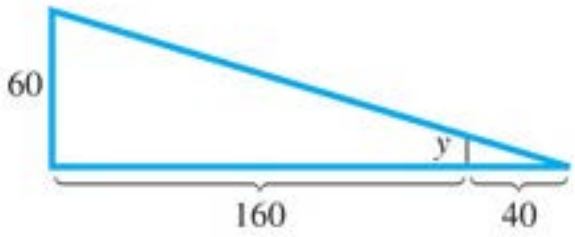


Facts about similar triangles:	
$\measuredangle A \cong \measuredangle D$	$\frac{AB}{DE} = \frac{BC}{EF} = \frac{AC}{DF}$
$\measuredangle B \cong \measuredangle E$	
$\measuredangle C \cong \measuredangle F$	

Example: Find the unknown side lengths. m = _____



y = _____



Example:

Height of a Lighthouse The Biloxi lighthouse in the figure casts a shadow 28 m long at 7 p.m. At the same time, the shadow of the lighthouse keeper, who is 1.75 m tall, is 3.5 m long. How tall is the lighthouse?