

4.2 (pg.160)

Area of Triangles

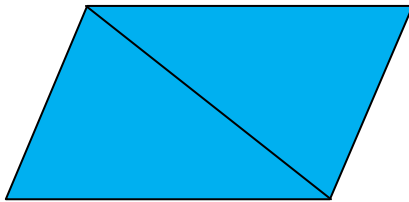
Recall that **congruent figures** are the same shape and size.

Example:



A parallelogram can be formed by two **congruent** triangles.

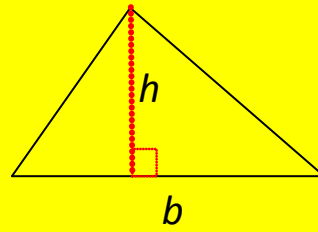
Example:



Since congruent triangles have the same area, the area of a triangle is one half the area of the parallelogram.

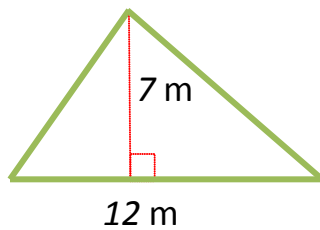
Area of a Triangle is...

$$A = \frac{1}{2}bh \text{ or } A = \frac{bh}{2}$$



(area is noted in square units)

Example: Find the area of the triangle:



$$A = \frac{1}{2} b h$$

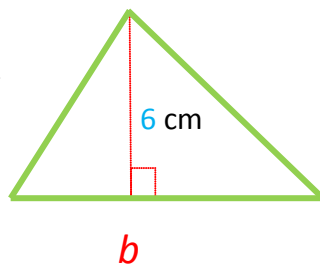
$$A = \frac{1}{2} (12)(7)$$

$$A = \frac{1}{2} (84)$$

$$A = 42$$

The area of the triangle is 42 square meters (42 m^2)

$$A = 24 \text{ cm}^2$$



$$A = \frac{1}{2} b h$$

$$24 = \frac{1}{2} (b) (6)$$

$$\frac{24}{3} = \frac{(3)b}{3}$$

$$8 = b$$

So the base is 8 centimeters.