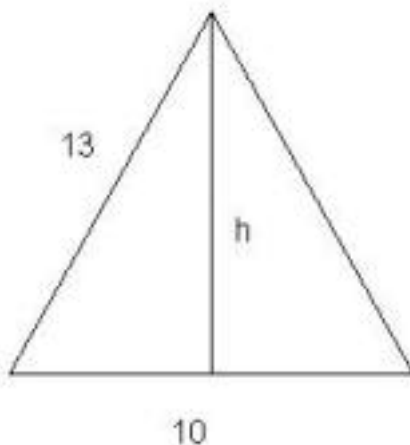


Problem 1. Find the area of the following isosceles triangle:



Solution. In an isosceles triangle, the altitude from the vertex angles bisects the base, dividing it into equal halves.

We'll find the altitude first. Using Pythagorean theorem we have that

$$a^2 + b^2 = c^2$$

where $c = 13$, $a = h$ and $b = \frac{1}{2}(10) = 5$. This means

$$h^2 + 5^2 = 13^2$$

and we solve for h

$$h^2 = 144$$

which means that $h = 12$. With this information we can find the area with the formula

$$Area = \frac{1}{2} \times base \times height = \frac{1}{2} 10 \times 12$$

which finally implies that $A = 60$. □