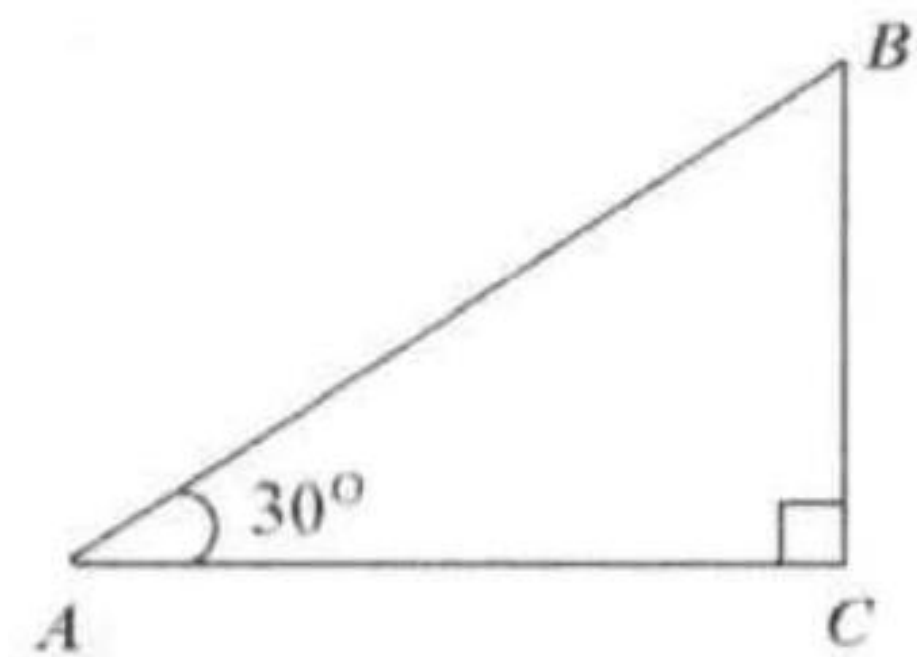


## Example 1

Show that for right triangle, if  $\angle A = 30^\circ$ , then  $BC = \frac{1}{2}AB$ .

Proof: Draw the median  $MC$ . Since  $MC$  is the median,  $MC = AM = MB$ .



Triangle  $AMC$  is an isosceles triangle with  $\angle MAC = \angle MCA = 30^\circ$ .

Since  $\angle BMC$  is the exterior angle of triangle  $AMC$ ,

$$\angle BMC = \angle MAC + \angle MCA = 30^\circ + 30^\circ = 60^\circ.$$

So, triangle  $MBC$  is an equilateral triangle with  $BC = MC = MB$ .

That is  $BC = \frac{1}{2}AB$ .

