

Q In a right angled triangle ABC
the hypotenuse $AB=p$, then

$AB \cdot AC + BC \cdot BA + CA \cdot CB$ equals

(bold represent vectors)

$$\underline{\text{Area}} \Rightarrow a \cos \alpha + b \cos \beta = h$$

$$\vec{AB} \cdot \vec{AC} + \vec{BC} \cdot \vec{BA} + \vec{CA} \cdot \vec{CB}$$

$$= ha \cos \alpha + hb \cos \beta + 0$$

$$= h(a \cos \alpha + b \cos \beta)$$

$$= h^2$$

