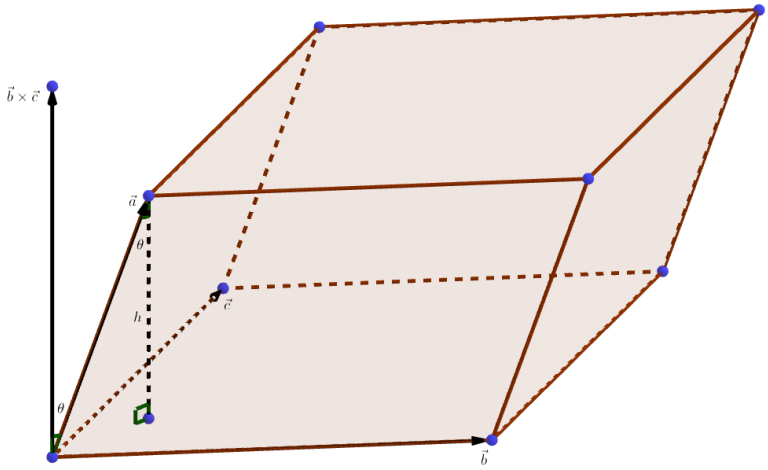
(1)



$$\left|\vec{b}\times\vec{c}\right| = \boldsymbol{A}rea\ of\ Parallelogram \quad |\vec{a}||cos\,\theta| = \boldsymbol{h}eight$$

$$\vec{a}\cdot\vec{b}\times\vec{c} = |\vec{a}|\left|\vec{b}\times\vec{c}\right| cos\,\theta$$

$$\left|\vec{a}\cdot\vec{b}\times\vec{c}\right| = |\vec{a}|\left|\vec{b}\times\vec{c}\right||cos\,\theta| = \boldsymbol{A}|\vec{a}||cos\,\theta| = \boldsymbol{Ah} = Volume\ of\ Parallelepiped$$

(2)

$$\vec{a}\cdot\vec{b}\times\vec{c} = \left(a_1\hat{\imath} + a_2\hat{\jmath} + a_3\hat{k}\right)\cdot\begin{vmatrix}\hat{\imath} & \hat{\jmath} & \hat{k}\\ b_1 & b_2 & b_3\\ c_1 & c_2 & c_3\end{vmatrix} = \begin{vmatrix}a_1 & a_2 & a_3\\ b_1 & b_2 & b_3\\ c_1 & c_2 & c_3\end{vmatrix}$$

Resources - 
resources.zip