

CROSS PRODUCT

1. Let \vec{u} be an ordinary vector in \mathbb{R}^3 , so that

$$\vec{u} = A\hat{i} + B\hat{j} + C\hat{k}$$

for some constants A, B, C . Find two vectors \vec{v} and \vec{w} such that

$$\vec{u} = \vec{v} \times \vec{w}$$

It is possible to solve this problem by brute force; find a better way if you can.

HINT: What properties should \vec{v} and \vec{w} have?