Answer on Question #52040-Physics-Quantum Mechanics

Which of the following correctly gives the direction of a vector product $\vec{c} = \vec{a} \times \vec{b}$?

If the right thumb points in the direction of $\vec{a}$ and the other fingers point in the direction of $\vec{b}$, then the palm pushes in the opposite direction of $\vec{c}$.

If the right is held such that the curled fingers follow the rotation of $\vec{a}$ into $\vec{b}$, then the extended right thumb points in the direction of $\vec{c}$

If the left thumb points in the direction of $\vec{a}$ and the other fingers point in the direction of $\vec{b}$, then the palm pushes in the direction of $-\vec{c}$

The direction of retreat of the right-handed screw when turned from $\vec{a}$ to $\vec{b}$ through the smaller angle.

Solution

The direction of the vector product can be visualized with the right-hand rule. If you curl the fingers of your right hand so that they follow a rotation from vector $\vec{a}$ to vector $\vec{b}$, then the thumb will point in the direction of the vector product.

Answer: If the right is held such that the curled fingers follow the rotation of $\vec{a}$ into $\vec{b}$, then the extended right thumb points in the direction of $\vec{c}$.