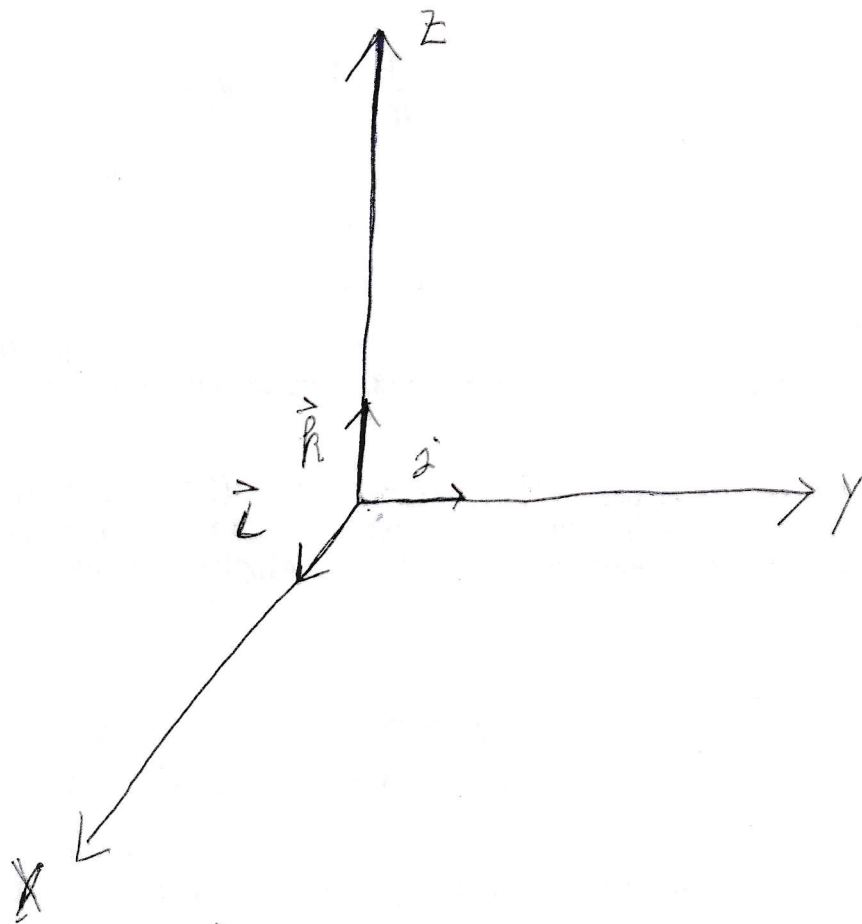


12.4, number 9: Sketch the coordinate axes and then include \vec{u} , \vec{b} , and $\vec{u} \times \vec{v}$ for $\vec{u} = \vec{i}$ and $\vec{v} = \vec{j}$

Answer: $\vec{i} \times \vec{j} = \vec{k}$. We put a picture on the next page. Notice that \vec{k} is perpendicular to both \vec{i} and \vec{j} . The length of \vec{k} is one, which is also the area of the parallelogram (in this case square) determined by \vec{i} and \vec{j} . Also, if you put your right hand in the plane containing \vec{i} and \vec{j} with your fingers curling from \vec{i} to \vec{j} , then your thumb points in the direction of \vec{k} .

12,4 number 9



$$\vec{R} = \vec{L} \times \vec{j}$$