

Tutorial 02

Vector cross product practice questions.

1. Compute $\vec{v} \times \vec{w}$ for following
 - a. $\vec{w} = \langle 0, 0, 1 \rangle$ and $\vec{v} = \langle 0, 0, 1 \rangle$
 - b. $\vec{w} = \langle 0, 0, 1 \rangle$ and $\vec{v} = \langle 0, 1, 0 \rangle$
 - c. $\vec{w} = \langle 0, 0, 1 \rangle$ and $\vec{v} = \langle 1, 0, 0 \rangle$
 - d. $\vec{w} = \langle 0, 0, 1 \rangle$ and $\vec{v} = \langle 0, 0, -1 \rangle$
 - e. $\vec{w} = \langle 0, 0, 1 \rangle$ and $\vec{v} = \langle 0, -1, 0 \rangle$
 - f. $\vec{w} = \langle 0, 0, 1 \rangle$ and $\vec{v} = \langle -1, 0, 0 \rangle$

 - g. $\vec{w} = \langle 3, -1, 5 \rangle$ and $\vec{v} = \langle 0, 4, -2 \rangle$
 - h. $\vec{w} = \langle 3, -1, 5 \rangle$ and $\vec{v} = \langle 0, -4, 2 \rangle$
 - i. $\vec{w} = \langle -3, 1, -5 \rangle$ and $\vec{v} = \langle 0, 4, -2 \rangle$
 - j. $\vec{w} = \langle -3, 1, -5 \rangle$ and $\vec{v} = \langle 0, -4, 2 \rangle$

 - k. $\vec{w} = \langle 1, 6, -8 \rangle$ and $\vec{v} = \langle 4, -2, -1 \rangle$
 - l. $\vec{w} = \langle 4, -2, -1 \rangle$ and $\vec{v} = \langle 1, 6, -8 \rangle$
2. Find a vector that is orthogonal to the plane containing the points $P = (3, 0, 1)$, $Q = (4, -2, 1)$ and $R = (5, 3, -1)$.
3. Are the vectors $\vec{p} = \langle 1, 2, -4 \rangle$, $\vec{q} = \langle -5, 3, -7 \rangle$ and $\vec{r} = \langle -1, 4, 2 \rangle$ in a same plane?