

Please PRINT your name _____

No calculators, cell phones, computers, notes, etc.

Circle your answer. Make your work correct, complete and coherent.

Please take a picture of your quiz (for your records) just before you turn the quiz in. I will e-mail your grade and my comments to you. I will return your quiz when I next see you.

The quiz is worth 5 points. The solutions will be posted on my website later today.

Quiz 2, September 9, 2024

Let $P = (1, -1, 2)$, $Q = (2, 0, -1)$, and $R = (0, 2, 1)$. Find a vector perpendicular to the plane containing P , Q , and R .

Answer:

We compute

$$\begin{aligned}\vec{PQ} \times \vec{PR} &= \begin{vmatrix} \vec{i} & \vec{j} & \vec{k} \\ 1 & 1 & -3 \\ -1 & 3 & -1 \end{vmatrix} = \begin{vmatrix} 1 & -3 \\ 3 & -1 \end{vmatrix} \vec{i} - \begin{vmatrix} 1 & -3 \\ -1 & -1 \end{vmatrix} \vec{j} + \begin{vmatrix} 1 & 1 \\ -1 & 3 \end{vmatrix} \vec{k} \\ &= \boxed{8\vec{i} + 4\vec{j} + 4\vec{k}}\end{aligned}$$