# Quiz 3 (Problems)

1. Using $P(-2,0,3), Q(1,2,4), R(-3,1,0)$,

   a. Find a vector orthogonal to the plane determined by $P$, $Q$ and $R$.

   b. Find an equation of the plane passing through $P$, $Q$ and $R$.

   c. Find the set of parametric equations for the line through $Q$ and parallel to $\mathbf{a} = \langle 4, -3, -2 \rangle$.

   d. Find the distance from the point $(-4, -1, 5)$ to the plane passing through $P$, $Q$ and $R$.

# Quiz 3 (Answers)

1. (Math-252 Quiz 3)

   a. $\mathbf{n} = \mathbf{PQ} \times \mathbf{PR} = \langle -7, 8, 5 \rangle$

   b. $-7x + 8y + 5z = 29$

   c. $x = 1 + 4t, y = 2 - 3t, z = 4 - 2t; t \in \mathbb{R}$

   d. $D = \frac{16}{\sqrt{138}}$