Math 13 Worksheet #7: Vectors, dot product, cross product, and planes

(1) Set up the equation to find the angle between the vectors $\overline{PQ}$ and $\overline{PR}$ with $P(3, -1, 2)$, $Q(8, 2, 4)$, and $R(1, -2, -3)$.

(2) Compute $\overline{PQ} \times \overline{PR}$. Geometrically what is the result?

(3) Find the equation of the plane through P and perpendicular to the vector $< 1, -2, 5 >$.