Exam ②

⑧ Find the volume of a parallelpiped with adjacent edges PQ, PR, PS.

P(3,0,3) Q(-1,3,6) R(5,3,1) S(2,4,4)

⑨ At what points does the helix $r = \langle \sin(t), \cos(t), t \rangle$ intersect the sphere $x^2 + y^2 + z^2 = 10$.

⑩ Consider the points below.

P(-2,0,0) Q(0,3,0) R(0,0,1)

Find a nonzero vector orthogonal to the plane through the points P, Q, R.