1. Find a vector normal to the plane $4(x-1)+6(z+3)=12$.
2. Find the equation of the plane through the origin which is parallel to $z=4x-3y+8$.
3. Consider the plane $5x-y+7z=21$.
   (a) Find a point on the x-axis on this plane.
   (b) Find two other points on this plane.
   (c) Find a vector perpendicular to the plane.
   (d) Find a vector parallel to the plane.
4. Given the points $P=(1,2,3), Q=(3,5,7), R=(2,5,3)$, find:
   (a) A unit vector perpendicular to a plane containing P, Q, R.
   (b) The angle between PQ and PR.
   (c) The area of the triangle PQR.
5. Find the distance from the point $P=(2,-1,3)$ to the plane $2x+4y-z=-1$.