1) Find a vector equation for the line, which passes through the points (6, -5, 2) and parallel to the vector 1i+3j-2/3k.

2) Find an equation of plan, which contains (4, 0,-3) and perpendicular to the vector -2i+j+5k

3) Find the distance between the point (-2, 2, 1) and the plane 4x+6y+2z=3

4) Find the partial derivative of the following function
    a. $f(x,t) = \sqrt{3x + 4t}$
    b. $f(x,t) = \sqrt{x}\ln t$
    c. $f(x,y) = x^y$

5) Using chain rule to find the partial derivatives
    a. $P = \sqrt{u^2 + v^2 + w^2}$, $u = xe^y$, $v = ye^x$, $w = e^{xy}$, $\frac{\partial P}{\partial x}, \frac{\partial P}{\partial y}$ when $x = 0, y = 0$,

6) Compute the directional derivative of the function at the given point in the direction of the vector
$$g(r,s) = s\sqrt{t}, (2,4), v = 2i - j$$