

1. a) Find the equation of the plane formed by the points  $P(2, 1, -1)$

$Q(-2, 3, 3)$  and  $R(1, 1, 1)$

2. Determine if the line hits the plane. If the line does hit the plane, is this intersection perpendicular?

$$2x - y + z = 5$$
$$x = 1 + 2t \quad y = 1 - t \quad z = -2 + t$$