

Question 1.¹ Given the points $A(-2, 0, -1)$ and $B(-2, 1, 0)$.

a. (5 marks) Find the point C , if possible, on the yz -plane such that the points A , B and C are collinear.

b. (5 marks) Using vectors determine whether the points A and B are on the same side of the plane $7x + y + z = 1$.

Question 3. (5 marks) Use a projection(s) to find the distance from the point $P(2, 3, 1)$ to the plane $3x_1 - x_2 + 4x_3 = 5$. And find the closest point on the plane to the given point.

¹From a past Dawson College Final Examination