

4. (a) Determine the values of k for which the system of equations

$$x - 3y + 2z = -7$$

$$kx + y - z = -5$$

$$6x - 5y + (k - 1)z = 1$$

does not have a unique solution.

(4)

Given that $k = 5$

(b) (i) by finding an appropriate inverse matrix, solve this system of equations,

(ii) interpret the solution geometrically.

(5)