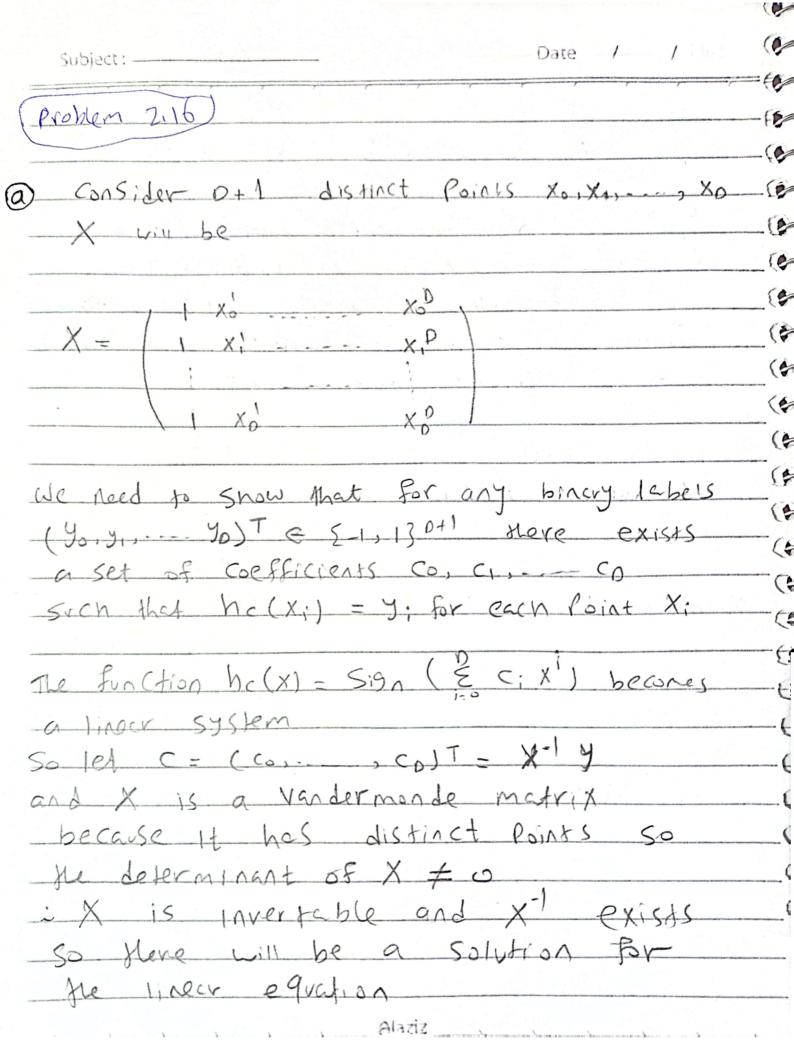
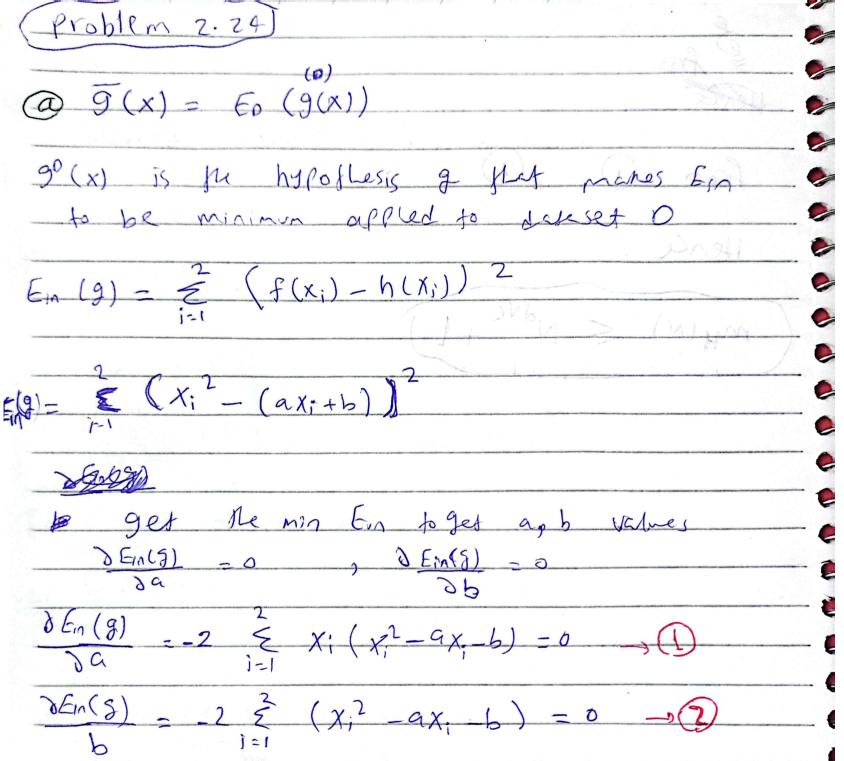
Name: Norhan Reda Abdelwaked Ahmed Sec: 2 BN: 31 Code: 9203639

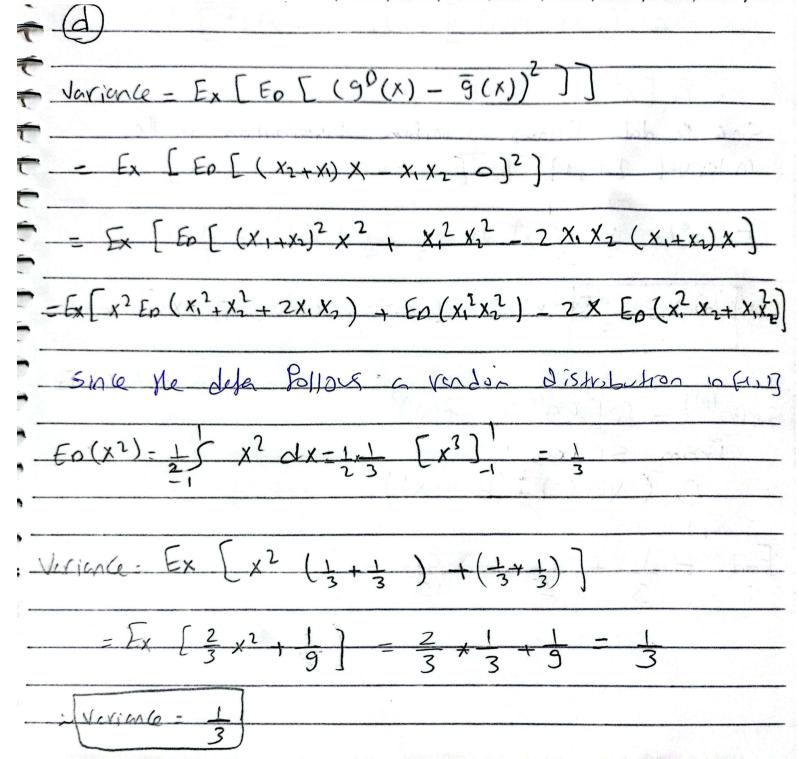


Date / / Subject: - inc(xn) = Sign( & C, xx) = yn for all K-0 there exists a set of coefficients Cos as --- co to schisfy any given labeling you, you, yo implying that H can shatter D+1 points



By expending the summation of each equation  $= x_1(x_1^2 - \alpha x_1 - b) + x_2(x_1^1 - \alpha x_2 - b) = 0 - \sqrt{3}$ J Emis)  $(x_1^2 - ax_1 - b) + (x_1^2 - ax_2 - b) = 0 \rightarrow 9$ X1 x(9) -(X-X) (x2-ax2-b) =0 X12-9X2-6=0 6 b= X2-9X2 -> X2 \* 9 - 3 (x2-x) (x2-ax1-b) =0  $x_1^2 - ax_1 - b = 0$ by substituting by (5) in (6)  $x_1^2 - ax_1 - x_2^2 + ax_2 = 0$  $\alpha(x_1-x_1) = x_1^2 - x_1^2$ a(X2-X1) = (X2-X1) (X2+X1) 9 = 12 + X1 by substituting in 6 b= x1 - (x1+X1) x2 = x12 - x12 ~ a= X2+X1 , b = - X1 X2

= 90(x)= ax+b= (x2+x1) x - x1x2 = x2x+x1x-9(x) = Ep (90(x)) = Ep (x2x+x1x-x1x2 = En(xxx) + En(xxx) - En(xxx) due to the independence of Points X1, X2 9(x) = FO(X) X + FO(X) X - EO(X1) EO(X2) Since the days billows a uniform distribution in the intervel



 $b_{145} = E_{x} \left[ \left( \overline{9}(x) - f(x) \right)^{2} \right] = E_{x} \left[ (0 - x^{2})^{2} \right]$ Since the data follows a uniform distribution in the Ex (x4) = 1 5 x4 dx = 1 + 5 (x5) = = 1 Eng (69(0)) = Ex [E0(9(0)(x) - g(x))2 from Slides = Ex ( Ver(x) + bres(x))