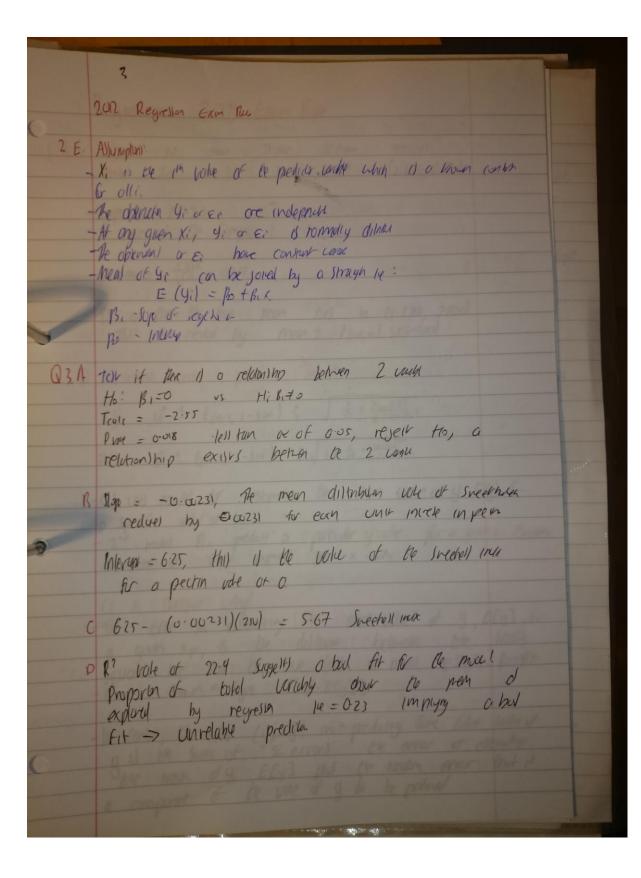
2012 Regression Exam Park B Sumple size = 20 Mean of Sumper = 2.1 SE(near) = 1.552 = 0.247 95% (I = 2.1 ± 0.347(196) - (1:374, 2:126) 91x dentant that the tree near vote he) in (1.374, 2.826) Q (I y + tention JMSE [ 1/n + 41-F)2/sxx PI go t tentra JMIE[1+1/2 + (N-7)2/522] -CI uld model for estimolog the men value of y, ECyJ to a Spentic volve of x. - P't preduts a particular y value for a great x, preduting outrons of single experiment given x ville CI is narrower why? - The enr in estiming the men volve of y, Ely ], for a guan xp, 1) the diltune between the louter Squerille and be the fire of men Ely ] = Bothix: - Enor Shown in how [g -E[y]] -In contrain be error (4-4) in predicing some rate cole or y is the sum of 2 errors the error of estimiting the mean of y, Ely3 plu he rondom error that i) q compar of the vole of y to be partial - Canjequery be error of pality a particular value of g will obey be larger from the error of estiming the men who we y for prhulor X - The first Xp led from X, are lost will be the source of elmin and predin

2A Exi = 2150 Ey, = 1430 n=5 9- 286 x = 430 5xig = 618800 by = 2x14. - \(\frac{2x12}{0}\) \(\frac{618500}{5}\) - \(\frac{12100}{5}\) \(\frac{2x12}{5}\) \(\frac{2x12}{5}\) ho = g - xb, 286-6 410 = 5146 E[9,3 = 5145 + 6xi 6 MSE = SSE =  $\frac{\xi(y_1 - g_1)^2}{N^2}$  =  $\frac{\xi(y_1 - g_1)^2}{N^2}$  =  $\frac{\xi(y_1 - g_1)^2}{N^2}$ Zy,2 -n/g2) - (b. (Ex,y,-nxy)) - 2920 - 21600/1 = 10520 = 318-787 = 3? L r2 = Sxy x Sxy = (3 600)2 - 0.6724 Sxx Sxy (600)(290) -R2 means to proporter of total variage above the man -R2 expland Gr. of the total union in the data and the overse T, goe from 0-x Mrun onst by men u.

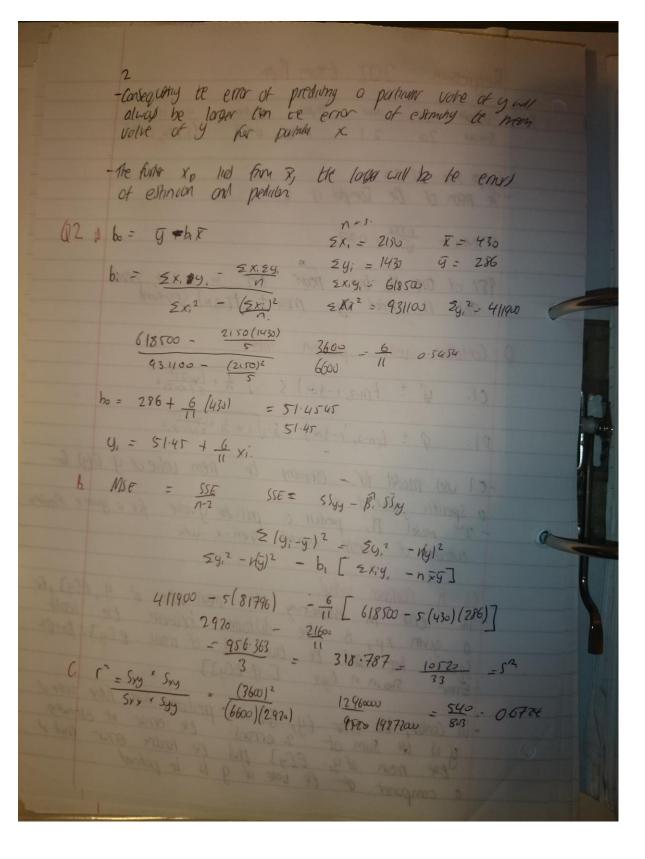
When each must in mu vote be men un as distribut of sole prival my one.



Regression 202 Exom Poper 1 B Vendy N now Stow SENON 952.11 Benzar 20 2:1 1572 0:347 (1.374, 2:876) - Sample Size N=20 - The mean of the Sample is 2-1 St nan = 1:352 = 0:317. 95% of time the tree mean lies in (1.374, 2920). Thu is creded by mean t to or, 19 I settrean! O Confidence very predictor intend (1:  $y^{1} + t(n-2, 1-\frac{1}{2}o^{2}) \leq \int \frac{1}{n} + \frac{(k_{0}-\overline{x})^{2}}{\frac{1}{2}(x-\overline{x})^{2}}$ P1: 9 + (n-2, 1-tor) S. VI+ 1 (1/2)2 -cluse model for estimony the mean value of y E(4) for a specific value of X.

- 200 model Pl, predutt or particular y value for a given x Preducts

outcore of strays expensely given - x - uche CL is named why? - The error in estimating the mean value of y, E[y], for a given xp, is be distance between the least Square line and the true line of man, E Eg ] = Bo+Bx: - Error Shown in figure [ g-ECy]] -In control, the error (y, -g) in predicting some have worked y is the sum of 2 errors: the error of estanding the mean of y, E[y] plus the rondom error that is a component of the voke of y is be pedicived



3 Regration 2012 Exam Par R2 mean proporting of lold varide about te mon nem g, explosed by the register r2 expans Gy of the total unotion in the dole about the avoice y. Goes or 0 71. If it was zox I voiled be concered, \$1 20x of the error accounted for is due to chance, the ster 80x 67-24 = R is a decent figue, religibly 70% of error is due to various should be now it. With each income in male value the men color for distribution of Sale price rises by 6/11, That to increase the sale price by one, the mater value would need to invest by? E. Assumptingent: - Xi 1) We in value of the predicts vorwhle, which if a Kravn contur for ali. - Ei i) a random error term with proportd - Eleil =0. - Va (E;)=02 - E: and ET are incorrelated so Cov(Ei, E5)=0 for i, T i 7 m - E: oe romally distribut N-(0, or) The mean of 4i can be joined by a Straight like, given as:

E (4i) = BotB, Xi. Where Bo and BI are unlimm paramed Such that: - B. is the slope of regression line and indicate be charge in rear of y for unit investe in x

