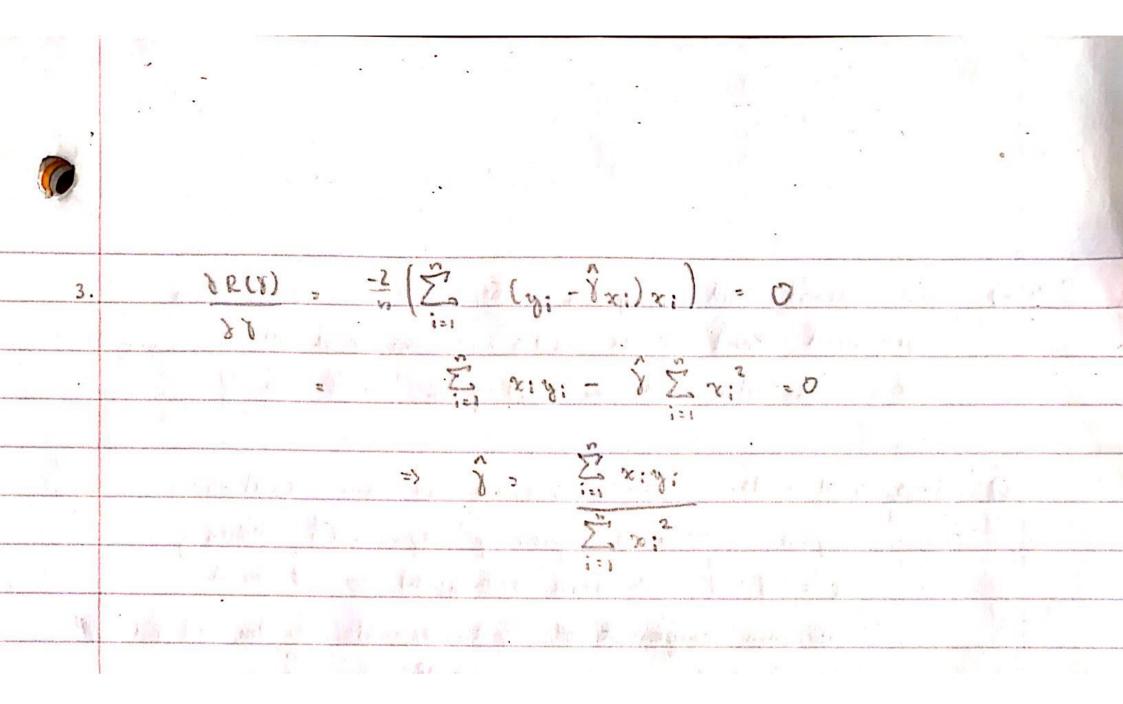
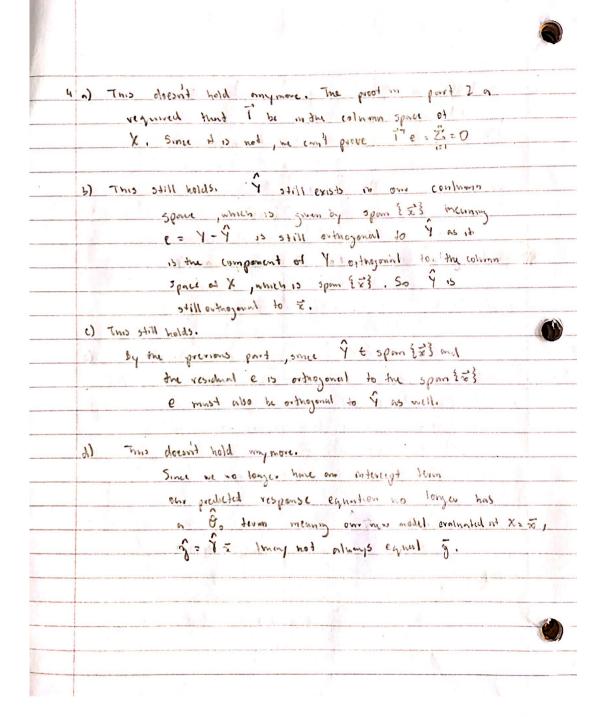
0	
	HW 85
1	$\sum_{i=1}^{n} e_{i} = \sum_{i=1}^{n} \gamma_{i} - \hat{\gamma}_{i} = \sum_{i=1}^{n} \gamma_{i} - \hat{\gamma}_{i} + \sqrt{\frac{\sigma_{i}}{\sigma_{i}}} \left( \chi_{i}, \hat{\chi}_{i} \right)$
	121 121
	- n = - 1 = 0 x n = - 2 2; 1 1 0 x;
	7 de 121
	= (- \sum_{\text{op}} \sigma_{\text{i}} \cdot \sigma_{
	20 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	2 0 + 0 = 0 31 40.4
	the production of the second second
	b) Taking the averyage of the residents
1	b) They he average of the residents:  \[ \frac{1}{2} \sum_{i=1}^{\infty} e_i = \frac{1}{2} \left( \frac{\infty}{2} \gamma_i - \frac{\infty}{2} \right) : \frac{\infty}{2} - \frac{\infty}{2} \]
	(2)
A CONTRACTOR OF THE CONTRACTOR	We know the sum of residuals is 0, so the accesse is
	0150 0. [part a)
-	50 7-7 -0
	has to the
	c) Evaluating the regression line Sunction at 8:2
	yorlds of = of and and and and and
	A STATE OF THE STA
	\$ = \(\frac{\sigma}{\sigma} \righta = \frac{\sigma}{\sigma} \left(\overline{\pi} - \overline{\pi}\right) = \overline{\pi}
	so the vegension line contains point (x, )
9	All was the country bout (X)

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	·
	8, 8, 403
2	a) fecall trank of is the closest point
	the tem response vector Y tout crists
	in the column space of X (which is span { 1, = 3)
	This mems that e = Y-Y is the component
	of Y that is contingened to the column space
	61 X. Treat mone that the dot growing
	between the resident e and any vector in the
	column space is 0.
	Note that the first column of X is I
	50 e i = Z e; = 0
	451
	b) As stated in gard a) 9= X 9
	is in the column space of & or in other north
	it is in the spen of x. This means exy-9
	continue of Y that is orthogonal
	to the span of X. So e is ordnogenal to every
	column vector in X, which includes &.
	The second secon
-	() As stated in points a and by I is in the colonory
	Space of X, which is span ET, 23, c contains
	the component of Y orthogonal to the column space of
	& linkish is where & ) costs since e= 7-9
	^
	so e is orthogonal to y



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