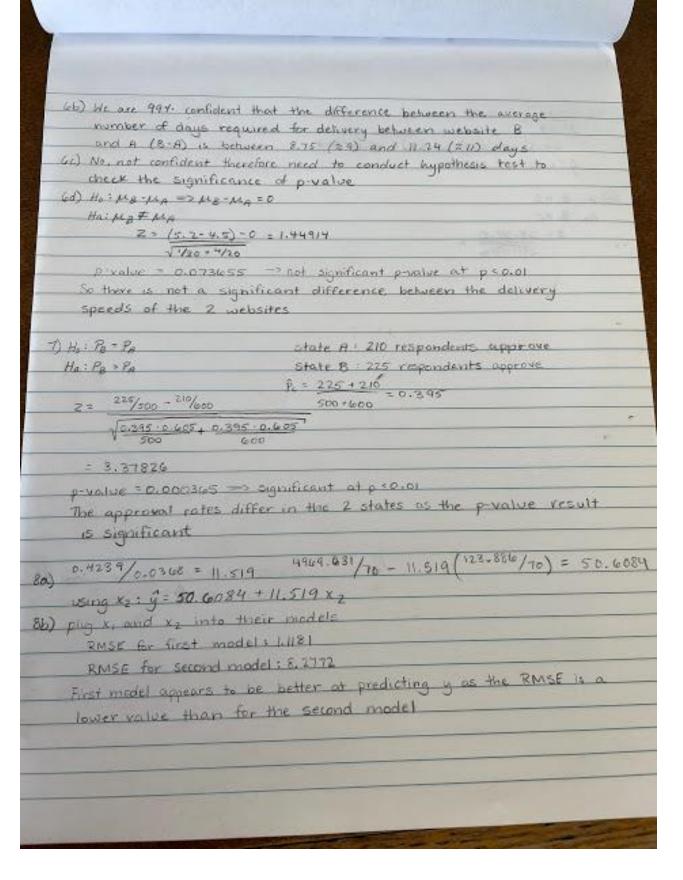
Stat330 HW6 Neha Maddali 1a) 4.2 + 1.645 449/120 4.2 1 2.10234 90-A CT : (2.09766, (e.30734) 2b) 4.2 ± 1.96 449/430 4.2 + 2.50492 95% (1 (1.69508, 6.70492) To) as you increase the confidence interval, the width of the interval also increases 1d) 4, 2 t 1.645 149/5100 4.2 ± 1.1515 904-07- (3.0485, 5.3515) Ie) as you increase the sample size the width of the confidence interval decreases Za) mean 69.75 J. (50-69.75)2 - (68-69.75)2 + (85-69.75)2 + (76-69.75)2 = 166.188 69.75 1 1.64 THOW. 188 / 54 69.75 10.5709 90% CI: (59.1791, 80.3209) 2b) SD = THER. 188 = 12.8914 69.75 2.35.12.8914/54 69.75 = 15.1474 901- 07: (54.6026, 84.8974) 20 The tidistribution of is more conservative (wider) than the normal distribution CI 2d) The data does not provide significant evidence against the hypothesis that the average salary of computer evigineers equals \$80,000. So the average salary is different than \$ 80,000 30 37.7 ± 1.64 9.2/ 5100 37,71 | 5088 90% CI: (36.19, 39.21)

36) Ho 1 1 535 HRS AL 235 20,49 = 2,33 d=0.01 Z=37.7-35 2 2.93 9/3/10 The value 2.93 > 2.33 so she null hypothesis is rejected. This means that the population mean of users that are connected at the same time is greater than 35 4a) n. 200 \$ sample prop of defective tems : 24/200 + 0.12 0-12 2 1.44 -[4-12(1-0.12)/200 0.12 = 0.045037 954. 62: (0.074963, 1.65037) 46) No, if only 10% of the items were defective, that means there were 20 defective stems not 24 4c) \$ 5 0.02 201.96 42 (0.9-1.96/0.02)2 4:0.02 = sample size for random inspection should be 2401 items 5) Ho : 0 = 0.02 n = 200 10 failed /200 tested Ha : F > 0.02 1=10 =0.05 Z= 0.05-0.02 (0.02/1-0.02) = 3.03046 7 200 p-value: 0.001223 The result is significant at p < 0.01. This verifies the engineers dain for the quality assurance specialist (00) (30-20) + Z 576 12/30 +27/20 10 ± 2.576 5730+4780 10 ± 1, 24433 49% CI (2.75567, 11.2443)



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9a) 87.51 1.037
84.39
(65.22 - (1.037)((68.35) = -5.65895)
\hat{y} = 1.037 - 5.65895 \times
9b) H_0: B_1 = 0
H_a: B_1 \neq 0
Z = (68.35 - 0)
\sqrt{(61-0)/78}
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