

**Quiz 7 for Statistics 301**  
**Elementary Statistical Methods - Spring 2001**  
**Material Covered: Section 11.2 of Workbook and Sections 11.4,11.5 of**  
**text**  
**Friday, 27th April**

This is a 15 minute quiz, worth 5% and marked out of 5 points. The total possible points awarded for each question is given in square brackets at the beginning of each question.

Name (please print): \_\_\_\_\_ . ID Number: \_\_\_\_\_  
last first

Consider the following incomplete ANOVA table,

Source	Sum Of Squares	Degrees of Freedom	Mean Squares
Between Groups	734	4	
Within Groups	1200	40	
Total	1934	44	

(a) [1 point] The statement of the test is (circle one):

- (i)  $H_0 : \mu_1 = \mu_2 = \mu_3$  versus  
 $H_1 : \text{at least one } \mu_i \neq \mu_j, i \neq j; i, j = 1, 2, 3.$
- (ii)  $H_0 : \mu_1 = \mu_2 = \mu_3 = \mu_4$  versus  
 $H_1 : \text{at least one } \mu_i \neq \mu_j, i \neq j; i, j = 1, 2, 3, 4.$
- (iii)  $H_0 : \mu_1 = \mu_2 = \mu_3 = \mu_4 = \mu_5$  versus  
 $H_1 : \text{at least one } \mu_i \neq \mu_j, i \neq j; i, j = 1, 2, 3, 4, 5.$
- (iv)  $H_0 : \mu_1 = \mu_2 = \mu_3 = \mu_4 = \mu_5 = \mu_6$  versus  
 $H_1 : \text{at least one } \mu_i \neq \mu_j, i \neq j; i, j = 1, 2, 3, 4, 5, 6.$

(b) [1 point] Complete the ANOVA table above

Source	Sum Of Squares	Degrees of Freedom	Mean Squares
Between Groups	734	4	_____
Within Groups	1200	40	_____
Total	1934	44	

(c) [2 points] The test statistic is (circle one) **1.02** / **2.56** / **3.42** / **4.35** / **6.12**  
and the upper critical value at 5% is  
(circle one) **2.61** / **3.89** / **4.82** / **5.76** / **7.29**

(d) [1 point] We (circle one) **accept** / **reject** the null hypothesis.

(a) (iii)

(b) **183.5, 30**

(c) **6.12** ( $\frac{183.5}{30}$ ),  
**2.61** (INVF with 4, 40 df and 0.95)

(d) reject