

Maths 2311

Written Homework 11 (Sections 8.3 - 8.5)

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Instructions

- Homework will NOT be accepted through email or in person. Homework must be submitted through Canvas/Blackboard by the deadline.
- Print out this file and complete the problems.
- Use Blue or black ink or a ballpoint pen.
- Write your solutions in the space provided. You must show all work for full credit.
- Submit this assignment at <http://www.cbaa.utdallas.edu> under "Assignments" and choose submit!

1. Section 8.3, Problem 1 Group 1: Minerva

$H_0: \mu_1 = \mu_2$ Group 1: Capital

$H_a: \mu_1 < \mu_2$

$$t = \frac{7180 - 8172}{\sqrt{\frac{1178}{30} + \frac{1022}{30}}} = -1.098 \quad \boxed{\text{Reject } H_0}$$

$$P(t < -1.098) = 0.14 < \alpha$$

2. Section 8.3, Problem 2 Group 1: Method

$H_0: \mu_1 = \mu_2$ Group 2: Method 2

$H_a: \mu_1 > \mu_2$

$$t = \frac{85 - 81}{\sqrt{\frac{7}{30} + \frac{7}{30}}} = 4.629 \quad \boxed{\text{Reject } H_0}$$

$$P(t > 4.629) = 1.1 \times 10^{-5} < \alpha$$