

**Math 54**  
**Exam 4, v2, Answers**  
**Spring 2018**

- Problem 1.**  $H_0 : \mu = 3.5$ .  
**Problem 2.**  $H_1 : \mu < 3.5$ .  
**Problem 3.** -1.684.  
**Problem 4.** -0.493.  
**Problem 5.** Fail to reject.  
**Problem 6.**  $H_0 : p = 0.75$ .  
**Problem 7.**  $H_1 : p > 0.75$ .  
**Problem 8.** 1.645.  
**Problem 9.** 1.155.  
**Problem 10.** Fail to reject.  
**Problem 11.** 0.0434.  
**Problem 12.** 2.4390.  
**Problem 13.** 0.05.  
**Problem 14.** 1.3061.  
**Problem 15.**  $H_0 : \sigma = 1.0$ .  
**Problem 16.**  $H_1 : \sigma < 1.0$   
**Problem 17.** 13.848.  
**Problem 18.** 16.138.  
**Problem 19.** Fail to reject.  
**Problem 20.** No.