

## HW #9 Stat 101 Due Thursday November 13

1. (21-14) Spam
2. (21-16) More spam
3. (21-24) Stop signs
4. (21-30) Faulty or not? (Hint look at 21-29 too)
5. (22-16) Prozac (Do this by “hand” and then load ex16-22.jmp to see how to set it up in JMP. Fit Y by X where Y=Response, X=Treatment and Freq=Counts. Report the confidence interval that JMP reports and compare it to the one you found by hand.)
6. (22-18) Prozac again (From the same output in JMP, what is the P-value of this test? Is the hypothesis one-sided or two-sided?)
7. A study asked two groups of boys (ages 12-14 and ages 15-17) whether they played online computer games. The results are found in the file Ex9-7.jmp
  - a) What are the percentages of each group that responded yes (1) to playing online games?
  - b) Give a 95% confidence interval for the true proportion in each group. (Use can use JMP – Distribution, or do it by hand. For practice I’d do both... Use Reponse as Y, Counts as Freq and do it by Age Group. JMP call the proportion a mean – which it is, kindof.)
  - c) Based on b) would you think the proportions for the two age groups are different? Could 0.66 be a possible value for both groups?
  - d) Now test the difference directly (in JMP do it as in #5 above). Give a 95% CI and find the P-value for the test.
  - e) How do reconcile the results in c) and d)?
  - f) If someone said that testing the difference of two proportions is more *powerful* than testing each and seeing if the confidence intervals overlap, what would they mean? Do you agree with the statement? Explain.
8. Review V #22 Perfect pitch
9. (23-6) Teachers – interpretation of confidence intervals – this time about the mean.
10. (23-8) Rain