Test 2 SHORT ANSWER QUESTIONS

1. Which hypothesis {Ho or Ha} are we trying to prove in a HT?
2. If we have better evidence for Ha than for Ho, does that mean that Ho will probably be rejected?
3. If Ho is true what is the probability that you will reject it by mistake?
4. If Ho is not true what is the probability that you mistakenly not reject it?
5. What is the total area of the rejection region in a HT?
6. If you mistakenly reject Ho, what type of error is it?
7. If you mistakenly don’t reject Ho, what type of error is it?
8. What is the chance of making a type I error?
9. What is the chance of making a type II error?
10. What is the notation for the significance level?
11. What is the notation for the total area of the rejection region?
12. Generally speaking which type of error is more important to keep small?
13. At the beginning we always assume what about Ho?
14. The pictures we draw in a HT show how sample statistic would be distributed assuming \_\_\_\_\_\_\_\_\_\_.
15. The pictures we draw in a HT show how \_\_\_\_\_\_\_\_\_\_\_ would be distributed assuming Ho is true.
16. The edge(s) of the rejection region(s) are called what?
17. Are the critical value(s) found by a table or calculation in this class?
18. The standardized number of the statistic(s) related to the parameter(s) in Ho are called what?
19. Is the test statistic found by a table or calculation?
20. What is the *p*-value in everyday terms?
21. In a right-hand tail the *p*-value is the area to the \_\_\_\_\_\_\_\_ of the test statistic. This is because this area represents the chance of getting stronger evidence against Ho, assuming Ho is true.
22. In a right-hand tail the *p*-value is the area to the right of the test statistic. This is because this area represents the chance of getting \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ evidence against Ho, assuming Ho is true.
23. In a right-hand tail the *p*-value is the area to the right of the test statistic. This is because this area represents the chance of getting stonger evidence against Ho, assuming Ho is \_\_\_\_\_\_\_.
24. In order to reject Ho, the *p­*-value must be what compared to the significance level?
25. Which casts more doubt on Ho, a small *p*-value or a large *p*-value?
26. Gosset came up with the *t* distributions by trying to make what product have a high quality?
27. Suppose you have a large sample and use *z* in place of *t* will the difference be that noticeable?
28. Suppose you have a small sample and use *z* in place of *t* will the difference be that noticeable?
29. What is the area under a *t* curve?
30. What distribution is a *t* with  degrees of freedom?
31. When using the *z* or *t* why do we not really care about the normality of the data for large sample sizes?
32. If and the  based on a random sample of size 16 and the data is normal, what will be the mean of sample means of size 16?
33. If and the  based on a random sample of size 16 and the data is normal, what will be the best estimate for the standard deviation of sample means of size 16?
34. If and the  based on a random sample of size 16 and the data is normal, what will be the shape of sample means of size 16?
35. For HTs and CIs for comparing means from two independent samples, if you knew the population standard deviations what distribution would you use?
36. When comparing two means, we use what arithmetic operation to compare them?
37. What is the notation for the sample proportion?
38. What is the notation for the population proportion?
39. If the data is random what is the best guess for *p*?
40. To figure the sample size, *n*, needed for a CI for a proportion, you are safe to use *p* and *q* to be \_\_\_\_\_\_, this makes *n* the largest and if *n* is too large then the margin of error will be even smaller than what was asked for?
41. To figure the sample size, *n*, needed for a CI for a proportion, you are safe to use *p* and *q* to be 0.5, this makes *n* the largest and if *n* is too large then the margin of error will be even \_\_\_\_\_\_\_\_ than what was asked for?
42. To figure the sample size, *n*, needed for a CI for a proportion, if you have a reasonable value for *p’* and use it then you CI may have a margin of error a little too big, but your sample size will be \_\_\_\_\_\_\_\_ making collecting the data easier.
43. Suppose *p* = .40. What is the approximate shape of the distribution of *p’* for samples of size 200?
44. Suppose *p* = .40. What is the mean of the distribution of *p’* for samples of size 200?
45. Suppose *p* = .40. What is the standard deviation of the distribution of *p’* for samples of size 200?
46. When comparing two proportions, we use what arithmetic operation to compare them?
47. Are the *t* distributions symmetric?