Name _____ Date _____

Elementary Statistics Period _____

Chapter 8 Test Review

Hypothesis Testing

Part I: Match the vocabulary with the correct definition.

1. Null hypothesis _____
2. Alternative hypothesis _____
3. Test statistic _____
4. Critical region _____
5. Critical value _____
6. Significance level _____
7. Left-tailed test_____
8. Right-tailed test_____
9. Two-tailed test _____

a. The probability that the test statistic will fall in the critical region when the null hypothesis is actually true
b. A statement that the value of a population parameter somehow differs from the null hypothesis
c. The critical region is in the upper region of the normal distribution
d. The set of all values of the test statistic that cause us to reject the null hypotheis
e. A statement that the value of a population parameter is equal to some claimed value
f. The critical region falls in both the upper and lower regions of the normal distribution
g. A value used in making a decision about the null hypothesis and is found by converting the sample statistic to a score assuming the null hypothesis is true
h. A value that separates the critical region from the values of the test statistic that do not lead to rejection of the null hypothesis
i. The critical region is in the lower region of the normal distribution.

Part II: Answer each question and show your work. If necessary, round your final answers to the hundredths place.

10. What are the 2 main goals of inferential statistics?

11. In a USA Today poll of 737 respondents, 92% said that they do not open unfamiliar email links. Use a 0.01 significance level to test the claim that more than 75% of us do not open unfamiliar email links.

Conclusion:

12. A simple random sample of 40 sales receipts from a grocery store has $\bar{x}$ = \$141 and s = \$30.20. Use these values and a significance level of 0.01 to test the claim that the mean sale at the grocery store is equal to \$150.

Conclusion:

13. A simple random sample of 15 race car drivers are found to have a mean of 33.6 years and a standard deviation of 7.67 years. Most people in the general population have ages that vary between 0 and 90 years and are normally distributed, so the range rule of thumb suggests that ages in the general population have a standard deviation of 22.5 years. Use a 0.10 significance level to test the claim that the standard deviation of ages of all race car drivers is less than 22.5 years.

Conclusion: