Name _____ Date _____

Elementary Statistics Period _____

Chapter 8 Quiz Review

Basics of Hypothesis Testing (sections 8.2-8.3)

Part I: Write the symbol(s) & definition for each of the following terms.

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

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

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

11. What is the rare event rule for inferential statistics?

12. A local department store is reviewing how much of their sales come from online purchases. Based on a sample of 500 total purchases, 62% were made online. Use a significance level of 0.05 to test the claim that the majority (over 50%) of purchases from this department store are made online.

    a. What is the claim in symbolic form? And state the "opposite of the claim".

    b. State the null and alternative hypotheses.

    c. Is this a left-tailed, right-tailed, or two-tailed test?

    d. What is the significance level?

    e. Find the critical value(s).

    f. What is the test statistic?

    g. What conclusion should be reached regarding the null hypothesis?

    h. Express the formal conclusion in context of the original claim.

13. A recent survey was taken from 1,252 young adults (between the ages of 20-25) and found that 285 of them lived at home with their parents. Use a 0.04 level of significance to test the claim that ¼ of young adults live at home with their parents.

a. What is the claim in symbolic form? And state the "opposite of the claim".

b. State the null and alternative hypotheses.

c. Is this a left-tailed, right-tailed, or two-tailed test?

d. What is the significance level?

e. Find the critical value(s).

f. What is the test statistic?

g. What conclusion should be reached regarding the null hypothesis?

h. Express the formal conclusion in context of the original claim.

Here is a copy of the table you can use to help write the conclusion of each hypothesis test in context of the question. You will also be given this table on the QUIZ. By the time you take the unit 8 test, it must be memorized. You will not have this table on the unit 8 test or on the final exam.

Condition	Conclusion
Original claim does not include equality and you reject H_0	"There is sufficient evidence to support the claim that…(original claim)"
Original claim does not include equality and you fail to reject H_0	"There is not sufficient evidence to support the claim that…(original claim)"
Original claim includes equality and you reject H_0	"There is sufficient evidence to warrant rejection of the claim that…(original claim)"
Original claim includes equality and you fail to reject H_0	"There is not sufficient evidence to warrant rejection of the claim that … (original claim)"