

- b. Assuming a two-tailed test, state the null hypothesis and the alternative hypothesis, *using symbols*.
- c. What z-scores separate the critical regions from the rest of the distribution with $\alpha = .05$ (*remember that this is a two-tailed test*)?
- d. Calculate the z-score for the sample.
- e. What decision should be made about the null hypothesis, **and** what would you conclude about the effects of the hormone?
6. A standardized test that measures vocabulary skills of preschoolers has been developed. Scores on the test are normally distributed with $\mu = 60$ and $\sigma = 10$. A psychologist uses this test to investigate the hypothesis that children who grow up as single children develop vocabulary skills at a *faster rate* than children in large families. A sample of $n = 25$ children is randomly selected and the mean test score for the sample is $M = 63$.
- a. State the null hypothesis and the alternative hypothesis, *using symbols (it's important to know if this is a one-tailed test or a two-tailed test!)*.
- b. Where is the critical region located, using the .05 level (what's the z-score)?
- c. What is the standard error and the obtained z-score from the sample?
- d. State your decision in terms of the null hypothesis, and explain, in a sentence what the results mean.