

Lab #9: Hypothesis Testing - Dichotomous Variables

- 1) Define:
 - a. Probability
 - b. Dichotomous Variable

- 2)
 - a. After rejecting the null and asserting the alternative hypothesis, do we accept the alternative?
 - b. After failing to reject the null, is it safe to assume the null is correct?

- 3)
 - a. If Stewart were to toss a coin seven times, what would be the total number of different possible outcomes? What would be the total number of all possible outcomes?
 - b. If Stewart were to toss a coin 15 times, what would be the total number of different possible outcomes? What would be the total number of all possible outcomes?

- 4) What are the 6 steps that we will use in testing a hypothesis?

- 5) Chris convinces Sean to play a game with him for \$10 per guess (if Sean guesses correct, Chris owes him \$10, if Sean guesses incorrectly, Sean owes Chris \$10). Chris holds either one finger or two fingers up behind his back and Sean guesses the number of fingers. After 12 guesses, Sean has lost \$100 (11 wrong, 1 correct). He begins to wonder if his good friend Chris is playing fair. Do a formal hypothesis test.

- 6) Do you believe the earth is warming? After asking this question of 10 random people we find that 7 believed it was and the other 3 disagreed. Do a formal hypothesis test.