

Table Number: _____

Group Name: _____

Group Members: _____

Balancing Coins Part 2

Part 2: Research Question: Is flipping the Euro coin a “fair” process?

Someone recently collected data using the new Euro coin. This person tossed it 100 times and got 49 heads. How would we test a hypothesis that the chance of getting heads when flipping one of these coins is not 0.5?

Four things we would need:

A hypothesis to test: Write both of the hypotheses, or ideas, to test.

A sample of data which gives us a sample statistic: What is the sample statistic?

A sampling distribution for that statistic (based on the null-hypothesis) so we can see how unusual or surprising it is, by seeing if it is in one of the tails (surprising) or in the middle of the distribution (not surprising): Use the *Normal Distribution* on StatCrunch to create an appropriate sampling distribution (mean = 0.5; standard deviation = 0.05) and sketch it here.

A decision rule: What is the decision rule we will use? Use that decision rule to draw a conclusion about whether the process of tossing a Euro is “fair”.