

## **Section 12.1 IRA Guide**

### ***Introduction***

Screen 1: Review - Probability rules and mutually exclusive. (See section 5.2.)

Screen 2: Review - Definition of a probability distribution, from section 6.1.

Screen 3: Review - Formula for the mean of a binomial distribution. (Section 6.2)

Screen 4: List of Objective

Introduction of the Chi-Square Distribution – A quick skim will be enough.

Screen 5: Characteristics of the Chi-Square Distribution. Another quick skim is enough here.

Screen 6: Explanation of how to find critical values. Since we will use StatCrunch to find P-values, you can skip this.

Screen 7: Example 1 covers how to find critical values for the Chi-Square distribution. Since there will be an exercise based on this on the next screen, you should watch the video solution so you know how to do this.

Screen 8: Exercise based on Example 1 on the previous screen.

Screen 9: What to do when the degrees of freedom are not listed. Again, StatCrunch makes this irrelevant for us.

### ***Objective 1 – Perform a Goodness-of-Fit Test***

Screen 1: Definition of a goodness-of-fit test, and how to set up the null hypothesis for a goodness-of-fit test.

Screen 2: How to find expected counts (or expected frequencies) for each category.

Screen 3: Example 2 shows you how to find expected counts. Be sure to watch the (by hand) video solution.

Screen 4: This exercise covers how to find expected counts and is based on Example 2 on the previous screen.

Screen 5: Background for performing a goodness-of-fit test. Pay attention to the 2 conditions listed that involve expected frequencies.

Screen 6: Summary of the 5 steps for a goodness-of-fit test.

Screen 7: Example 3 shows how to conduct a goodness-of-fit test. Be sure to watch the StatCrunch video solution.

Screen 8: A short wrap up of Example 3. You can skim through this.

Screen 9: This exercise is based on Example 3 from Screen 7.

Screen 10: Example 4 is another goodness-of-fit test, this time involving equal expected frequencies. Be sure to watch the StatCrunch video solution.

Screen 11: This exercise is based on Example 4 on the previous screen.

Screen 12: This screen goes over the conclusion that we can draw from a goodness-of-fit test. This is important to understand.

Screen 13: End of Section