Section 7.2 IRA Summary

Introduction

Screen 1: This problem goes over z-scores. To find a z-score, subtract the mean. Then divide by the standard deviation. In this problem do not type the sign, instead choose "below the mean" for negative values and "above the mean" for positive values. [Section 3.4]

Screen 2: The nth percentile is the value that has n% of the values below it. [Section 3.4]

Screen 3: Complement Rule – If you know the probability of event E, the probability of its complement is 1 – P(E). [Section 5.2]

Screen 4: List of Objectives

Objective 1: Find and Interpret the Area under a Normal Curve

Screen 1: Definition of the standard normal distribution, or z-distribution. The z-distribution has a mean of 0 and a standard deviation of 1. That is important to remember whenever you work with "Z", and this will be the default when you open the StatCrunch Normal Calculator.

Screen 2: You can ignore this screen, as we will not use the table. Instead we will use StatCrunch.

Screen 3: You can ignore this screen as well, as we will not use the table. Instead we will use StatCrunch.

Screen 4: Example 1 shows how to find normal probabilities. WATCH THE STATCRUNCH VIDEO.

Screen 5: Pay attention to the section on percentiles.

Screen 6: Example 2 is another normal probability problem. Watch the StatCrunch video, not the by hand video.

Screen 7: Skip

Screen 8: This problem calls on you to find normal probabilities. Refer back to Examples 1 & 2 (SC Videos) for help.

Screen 9: You can skip this one too.

Objective 2: Find the Value of a Normal Random Variable
I call these "Reverse Normal" problems.

Screen 1: Explanation of a "Reverse Normal" problem, where you are given a probability instead of a value.

Screen 2: The StatCrunch video in Example 3 will show you how to use the "Normal Calculator" for this type of problem.

Screen 3: This problem is similar to Example 3 on the previous screen. Be sure to do this using StatCrunch.

Screen 4: Example 4 shows how to solve a "Reverse Normal" problem where we are looking for the "middle" area. Watch the StatCrunch video.

Screen 5: This problem is based on Example 4 on the previous screen. Be sure to do this using StatCrunch.

Screen 6: Introduction of “z-sub alpha”. This is the z-value with an area of “alpha” to the right of it. Remember that z has a mean of 0 and a standard deviation of 1.

Screen 7: Example 5 shows how to find z-sub alpha. Be sure to watch the StatCrunch video solution.

Screen 8. This problem is based on Example 5 on the previous screen. Be sure to do this using StatCrunch.

Screen 9: Explanation about why the use/lack of use of an equal sign does not matter for normal probabilities. You should have noticed that SC only gives you $\leq$ and $\geq$, because those are the same as < and >.

Screen 10: End of Section