Lesson 7: Probability Calculations Involving a Mean Response

Homework

Solutions

Problem	Part	Solution
1	-	There are many possible sample means that could be obtained from a population. For example, if you draw a simple random sample of size 100 you will get a sample mean for that sample. However, if you drew a different random sample of size 100, you would get a different sample mean. Many different samples of size 100 could be drawn from a population and each of these samples will have its own sample mean. All of these possible sample means make up the sampling distribution.
2	-	z=0.186
3	-	0.426
4	-	Mean = 529
5	-	Standard Deviation = 20.631
6	-	Normal
7	-	z = 1.018
8	-	0.154
9	-	Normal, with mean of 3.5 and standard deviation of 0.078
10	-	0.005
11	-	0.319
12	-	0.068
13	-	z = -1.25
14	-	0.106
15	-	z = -3.536
16	-	0.0002
17	-	Probability shrinks as the z-score moves further away from the mean. This is happening because we are shading in the applet only to the left of the z-score since the problems ask for the probability of an event being 'less than'. Therefore, as our z-score gets further away from the center, the smaller the probability will be on the left tail.