Lecture 6:
Chapter 5 Mastery and Test 1 Review

C C Moxley

UAB Mathematics

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Using the range rule of thumb, calculate the maximum usual and minimum usual values for the probability distribution given below.

x	$P(x)$
0	0.01
2	0.03
4	0.3
6	0.01
8	0.16
10	0.45
12	0.015
14	0.025

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Does this agree with the **actual** maximum and minimum usual values?

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An airline does not want to overbook its flights. That is, it does not want more passengers to show up than there are seats available. However, it also does not want to have too many empty seats on the plane. If a passenger books a flight, she is 91.5% likely to show up. If the airline wants to book seats for a flight with 120 seats, how many tickets must be sold so that the event that 120 is the maximum possible usual value?

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- taking the reading quiz corresponding to each chapter.

Rebecca made a 75 on her history test. The average on this test was a 90 and the standard deviation was 5pts. Jerry made an 81 on his history test in a different class. The average for his test was an 84 and the standard deviation was 1pt. Who did relatively better within their class?

What's the advantage to statistical studies as opposed to censuses? What's the disadvantage?

An investigator wants to know if studying with the TV on reduces ability to study. She conducts a study which determines that the group who studies with the TV on is 95% more likely to have an average test score that is 0.2pts lower (out of 100) than those who study without the TV on. Is this result statistically significant?

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§Sample Questions

Which measure of variance is least sensitive to outliers, i.e. which is most resistant?

1. variance
2. standard deviation
3. range

How do a normal distribution histogram and a skewed right distribution histogram differ?

How do you determine class width in a frequency distribution?

Uniform distribution histograms look like which of the options below.

- starts low, increased, decreases, and is roughly symmetric
- starts high, decreases, increases, and is roughly symmetric
- is roughly flat
- is symmetric