SEIS 631

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Assignment 4

**Question 1 [MULTIPLE CHOICE] Which of the following is false?**

(e) The smallest house is 534 square feet and the largest is 3,642 square feet.

**Question 2: Describe the distribution of this sample? How does it compare to the distribution of the population?**

The distribution of the sample has a min of 520 and a max of 2524, with a median of 1384, mean of 1433. The extremes of the sample are not as high on the high end or low on the low end. The overall trend of the histogram is similar, it is unimodal with the peak at the same point.

**Question 3 [MULTIPLE CHOICE] Suppose we took two more samples, one of size 100 and one of size 1000. Which would you think would provide a more accurate estimate of the population mean?**

(c) Sample size of 1000

**Question 4: Describe the sampling distribution (the distribution of the sample means that you just created), and be sure to specifically note its mean. Which theorem describes the behavior of the sampling distribution?**

The distribution looks very similar to the normal distribution. The mean is 1499 which is very close to the mean of the total population. At the same time the min and max values are much less extreme than that of the population.

The theorem that describes this behavior is the Central Limit Theorem.

**Question 5: [MULTIPLE CHOICE] Which of the following is true about the elements in the sampling distributions you created?**

(a) Each element represents a mean square footage from a simple random sample of 50 houses.