8.3 – NORMAL PROBABILITY, PART 2

1. Find *z* such that 15% of the standard normal curve lies to the left of *z*.

2. Find *z* such that 8% of the standard normal curve lies to the right of *z*.

3. Find the *z* value such that 98% of the standard normal curve lies between -*z* and *z*.

4. The average price of a personal computer is $949. If computer prices are approximately normally distributed and $\sigma = \$100$, what are the costs of the least expensive 10% of personal computers?

5. If the average price of a new one family home is $246,300 with a standard deviation of $15,000, find the minimum and maximum prices of the houses that a contractor will build to satisfy the middle 75% of the market. Assume that the variable is normally distributed.

6. To help students improve their reading, a school district decides to implement a reading program. It is to be administered to the bottom 5% of the students in the district, based on the scores on a reading achievement exam. If the average score for the students in the district is 122.6, find the cutoff score that will make a student eligible for the program. The standard deviation is 18. Assume the variable is normally distributed.

7. A mandatory competency test for high school sophomores has a normal distribution with a mean of 400 and a standard deviation of 100. The top 3% of students receive $500. What is the minimum score you would need to receive this award?

8. An automobile dealer finds that the average price of a previously owned vehicle is $8256. He decides to sell cars that will appeal to the middle 60% of the market in terms of price. Find the maximum and minimum prices of the cars the dealer will sell. The standard deviation is $1150, and the variable is normally distributed.