4 Apply the Normal Distribution Academic Level : Professional Paper details you will present your answers to the following questions in a formal paper format. Please separate each question with a short heading, e.g. normal curve, bell curve, etc. Begin with a brief introduction in which you explain the importance of normal distribution. Next, address the following questions in order: Describe the characteristics of the normal curve and explain why the curve, in sample distributions, never perfectly matches the normal curve. Why is the bell curve used to represent the normal distribution? Why not a different shape? Why is the central limit theorem important in statistics? How does the central limit theorem inform us about the sampling distribution of the sample means? Imagine that you recently took an exam for certification in your field.

The certifying agency has published the results of the exam and 75% of the test takers scored below the average. In a normal distribution, half of the scores would fall above the mean and the other half below. How can what the certifying agency published be true? Why do researchers use z-scores to determine probabilities? Are there advantages to using this tool? Provide examples of the z-score in use. Conclude with a brief discussion of how the concept of probability might affect research that you might undertake in your dissertation project. In other words, how would a basic understanding of probability concepts aid you in analyzing and interpreting data? Length: 4 to 6 pages not including title page and reference page. References: Include a minimum of 3 scholarly resources