Chapter 5

1. A distribution has a standard deviation of σ = 8. Find the z- score for each of the following locations in the distribution
2. Above the mean by 4 points
3. Above the mean by 16 points
4. Below the mean by 8 points
5. Below the mean by 12 points
6. For the population with µ = 60 and σ = 10
7. Find the z- score for each of the following X values: X = 105 X = 120 X = 130 X = 90 X = 85 X = 60.
8. Find the score ( X value) that corresponds to each of the following z scores: z = -1.00 z = -0.50 z = 2.00 z = 0.70 z = 1.50 z = -1.50.
9. For a population with a standard deviation of σ = 10, a score X = 44 corresponds to z = -0.50. What is the population mean?
10. For a sample with a mean of M = 85, a score of X = 90 corresponds to z = 0.50. What is the sample standard deviation?
11. Find the z score corresponding to a score of X = 60 for each of the following distributions
12. µ = 50 and σ = 10
13. µ = 50 and σ = 5
14. µ = 70 and σ = 20
15. µ = 70and σ = 5
16. For each of the following populations, would a score of X = 50 be considered a central score (near the middle of the distribution) or an extreme score (far out in the tail of the distribution)?
17. µ = 45 and σ = 10
18. µ = 40 and σ = 2
19. µ = 55 and σ = 2
20. µ = 60 and σ = 20
21. Which of the following exam scores should lead to the better grade?
22. A score of X = 55 on an exam with µ = 60 and σ = 5.
23. A score of X = 40 on an exam with µ = 50 and σ = 20
24. Explain your answer.

Chapter 6

1. What is sampling with replacement and why is it used?
2. For a normal distribution, identify the z score location that would separate the distribution into two sections so that there is :
3. 70% in the body on the right hand side
4. 80% in the body on the right hand side
5. 75% in the body on the left hand side
6. 90% in the body on the left hand side
7. For a normal distribution, find the z score values that separate
8. The middle 60% of the distribution from the 40% in the tails.
9. The middle 70% of the distribution from the 30% in the tails.
10. The middle 80% of the distribution from the 20 % in the tails.
11. The middle 90% of the distribution from the 10% in the tails.
12. A normal distribution has µ = 80 and σ = 20. For each of the following scores, indicate whether the tail of the distribution is located to the right or the left of the score, and find the proportion of the distribution located in the tail
13. X = 85
14. X = 92
15. X = 70
16. X = 64

Chapter 7

1. The distribution of sample means is not always a normal distribution. Under what circumstances will the distribution of sample means not be normal?
2. A population has a mean of µ = 100 and a standard deviation of σ = 20. Find the z score corresponding to each of the following sample means obtained from this population.
3. M = 102 for a sample of n = 4 scores
4. M =102 for a sample of n = 100 scores
5. M = 95 for a sample of n = 16 scores
6. M = 95 for a sample of n = 25 scores
7. A random sample is obtained from a population with a mean of µ= 50 and a standard deviation of σ = 12
8. For a sample of n = 4 scores, would a sample mean of M = 55 be considered an extreme value or is it a fairly typical sample mean?
9. For a sample of n = 36 scores, would a sample mean of M = 55 be considered an extreme value or is it a fairly typical sample mean?
10. For a normal shaped distribution with µ = 50 and σ = 8:
11. What proportions of the scores have values between 46 and 54?
12. For samples of n = 4, what proportions of the samples means have values between 46 and 54?
13. For sample of n= 16, what proportions of the sample mean have values between 46 and 54?

Please show all work and thank-you again.