

1. Award: 10.00 points

Exercise 7-6

Customers experiencing technical difficulty with their internet cable hookup may call an 800 number for technical support. It takes the technician between 30 seconds to 12 minutes to resolve the problem. The distribution of this support time follows the uniform distribution.

(a) What are the values for a and b in minutes? (Do not round your intermediate calculations. Round your answer to 1 decimal place.)

a

b

(b- What is the mean time to resolve the problem? (Do not round your intermediate calculations. Round your answer to 2 decimal places.)

Mean

(b- What is the standard deviation of the time? (Do not round your intermediate calculations. Round your answer to 2 decimal places.)

Standard deviation

(c) What percent of the problems take more than 5 minutes to resolve? (Do not round your intermediate calculations. Round your answer to 2 decimal places. Omit the "%" sign in your response.)

Percent %

(d) Suppose we wish to find the middle 50 percent of the problem-solving times. What are the end points of these two times? (Do not round your intermediate calculations. Round your answers to 3 decimal places.)

End point 1

End point 2

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References

Worksheet

Difficulty: Easy

Exercise 7-6

Learning Objective: 07-02 List the characteristics of the uniform distribution.

2. Award: 10.00 points

Exercise 7-22

Among U.S. cities with a population of more than 250,000 the mean one-way commute to work is 24.3 minutes. The longest one-way travel time is New York City, where the mean time is 38.3 minutes. Assume the distribution of travel times in New York City follows the normal probability distribution and the standard deviation is 7.5 minutes.

(a) What percent of the New York City commutes are for less than 30 minutes? (Round the intermediate values to 2 decimal places. Round your answers to 2 decimal places. Omit the "%" sign in your response.)

Percent %

(b) What percent are between 30 and 35 minutes? (Round the intermediate values to 2 decimal places. Round your answers to 2 decimal places. Omit the "%" sign in your response.)

Percent %

(c) What percent are between 30 and 40 minutes? (Round the intermediate values to 2 decimal places. Round your answers to 2 decimal places. Omit the "%" sign in your response.)

Percent %

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References

References

Section Break

Exercise 7-39

3.

Award: 10.00 points

Exercise 7-39 Part a

(a) Less than 21 minutes per day using a computer for leisure. (Round your answers to 4 decimal places.)

Proportion _____ and _____

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Hints

[Hint #1](#)

References

Worksheet

Difficulty: Medium

Exercise 7-39 Part a

Learning Objective: 07-08 Describe the characteristics and compute probabilities using the exponential distribution.

4.

Award: 10.00 points

MC Qu. 34 What is the percentage of the total area und...

What is the percentage of the total area under the normal curve within plus and minus 2.1 standard deviations of the mean?

- ☐ 32.18%
- ☐ 96.42%
- ☐ 19.32%
- ☐ 48.25%

References

Multiple Choice

Difficulty: Easy

MC Qu. 34 What is the percentage of the total area und...

Learning Objective: 07-06 Find probabilities using the Empirical Rule.

5.

Award: 10.00 points

MC Qu. 68 A binomial distribution has...

A binomial distribution has 98 trials ($n = 98$) with a probability of success of 0.38 ($\pi = 0.38$). To apply the normal distribution to approximate the binomial, what are the mean and standard deviation?

- ☐ $\mu = 37.24$ and $\sigma = 4.81$
- ☐ $\mu = 19.00$ and $\sigma = 3.43$
- ☐ $\mu = 7.60$ and $\sigma = 2.17$
- ☐ $\mu = 26.60$ and $\sigma = 4.06$

References

Multiple Choice

Difficulty: Easy

☐ Uniform.

References

Check All That Apply

Difficulty: Easy

Exercise 7-8

Learning Objective: 07-03 List the characteristics of the normal distribution.

7.

Award: 10.00 points

MC Qu. 43 Tables of normal distribution probabilities ...

Tables of normal distribution probabilities are found in many statistics books. These probabilities are calculated from a normal distribution with

- ☐ a mean of 1 and a standard deviation of 1
☐ a mean of 100 and a standard deviation of 15
☐ a mean of 0 and a standard deviation of 15
☐ a mean of 0 and a standard deviation of 1

References

Multiple Choice

Difficulty: Easy

MC Qu. 43 Tables of normal distribution probabilities ...

Learning Objective: 07-04 Convert a normal distribution to the standard normal distribution.

8.

Award: 10.00 points

Exercise 8-7

A population consists of the following five values: 12, 13, 17, 19, and 22.

(a) List all samples of size 3, and compute the mean of each sample. (Round your Mean value to 2 decimal places.)

Sample	Values	Sum	Mean
1	(Click to select) ▼		
2	(Click to select) ▼		
3	(Click to select) ▼		
4	(Click to select) ▼		
5	(Click to select) ▼		
6	(Click to select) ▼		
7	(Click to select) ▼		
8	(Click to select) ▼		
9	(Click to select) ▼		
10	(Click to select) ▼		

(b) Compute the mean of the distribution of sample means and the population mean. (Round your answers to 2 decimal places.)

Sample means

Population mean

References

Worksheet

Difficulty: Medium

Exercise 8-7

Learning Objective: 08-04 Describe the sampling distribution of the sample mean.

9.

Award: 10.00 points

Using the sample mean of the final four digits (9704 would lead to a mean of 5), compute the mean of the sample means. (Round your answer to 2 decimal places.)

Mean of the sample means

References

Worksheet

Difficulty: Medium

Exercise 8-14

Learning Objective: 08-05 Explain the central limit theorem.

10.

Award: 10.00 points

Exercise 8-22

In the Department of Education at UR University, student records suggest that the population of students spends an average of 6.50 hours per week playing organized sports. The population's standard deviation is 3.50 hours per week. Based on a sample of 64 students, Healthy Lifestyles Incorporated (HLI) would like to apply the central limit theorem to make various estimates.

(a) Compute the standard error of the sample mean. (Round your answer to 2 decimal places.)

Standard error

(b) What is the chance HLI will find a sample mean between 5.6 and 7.4 hours? (Round z and standard error values to 2 decimal places and final answer to 4 decimal places.)

Chance

(c) Calculate the probability that the sample mean will be between 6.1 and 6.9 hours. (Round z and standard error values to 2 decimal places and final answer to 4 decimal places.)

Probability

(d) How strange would it be to obtain a sample mean greater than 8.70 hours?

(Click to select) ▼

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Hints

[Hint #1](#)

References

Worksheet

Difficulty: Medium

Exercise 8-22

Learning Objective: 08-07 Apply the central limit theorem to find probabilities of selecting possible sample means from a specified population.

11.

Award: 10.00 points

Exercise 8-1

The following is a list of Marco's Pizza stores in Lucas County. Also noted is whether the store is corporate-owned (C) or manager-owned (M). A sample of four locations is to be selected and inspected for customer convenience, safety, cleanliness, and other features.

ID No.	Address	Type
00	2607 Starr Av	C
01	309 W Alexis Rd	C
02	2652 W Central Av	C
03	630 Dixie Hwy	M
04	3510 Dorr St	C
05	5055 Glendale Av	C
06	3382 Lagrange St	M
07	2525 W Laskey Rd	C
08	303 Louisiana Av	C

41 (Click to select) ▼
 54 (Click to select) ▼

(c) A sample is to consist of every seventh location. The number 03 is the starting point. Which locations from above will be included in the sample?

(Click to select) ▼

(d) Identify a sample that consist of three locations, of which two are corporate-owned and one is manager-owned. Select, from below, a sample accordingly.

(Click to select) ▼

References

Worksheet

Difficulty: Easy

Exercise 8-1

Learning Objective: 08-02 Describe methods to select a sample.

12. Award: 10.00 points

MC Qu. 28 A marketing firm is studying consumer prefer...

A marketing firm is studying consumer preferences for winter fashions in six different months. From a population of women, 18-21 years of age, a random sample of 396 women was selected in March. Another random sample of 396 women was selected in June. Another random sample of 396 women was selected in September.

- ☐ The number of samples was 1.
- ☐ The number of samples was 396.
- ☐ The number of samples was 4.
- ☐ The number of samples was 1,588.

References

Multiple Choice

Difficulty: Medium

MC Qu. 28 A marketing firm is studying consumer prefer...

Learning Objective: 08-01 Explain why a sample is often the only feasible way to learn something about a population.

13. Award: 10.00 points

MC Qu. 55 An accounting firm is planning for the next ...

An accounting firm is planning for the next tax preparation season. From last year's returns, the firm collects a systematic random sample of 100 filings. The 100 filings showed an average preparation time of 150 minutes. What is the standard error of the mean?

- ☐ 150 minutes
- ☐ 15 minutes
- ☐ 90 minutes
- ☐ 1.5 minutes

References

Multiple Choice

Difficulty: Medium

MC Qu. 55 An accounting firm is planning for the next ...

Learning Objective: 08-06 Define the standard error of the mean.

14. Award: 10.00 points

MC Qu. 38 Sampling error is defined as

Exercise 8-29

The Quality Control Department employs five technicians during the day shift. Listed below is the number of times each technician instructed the production foreman to shut down the manufacturing process last week.

Technician	Shutdowns
Taylor	5
Hurlley	4
Gupta	6
Rousche	5
Huang	2

(a) How many samples, without replacement, of size two are possible?

Different samples

(c) Compute the mean of the sample means and compare it to the population mean. (Round your answers to 1 decimal place.)

The mean of the sample means is

The population mean is

Both means are : (Click to select) ▼

References

Worksheet

Difficulty: Medium

Exercise 8-29

Learning Objective: 08-04 Describe the sampling distribution of the sample mean.