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Graded Assignment 1

Part 1.

1.5/1.5 points (graded)

MoonDoe Café is a large chain with more than 2600 coffee shops worldwide. They have recently started their operations in India with 100 coffee shops. MoonDoe Café was launched as a Premium coffee shop in India, in contrast to their branding in USA where they are considered a regular coffee shop. The management wants to figure out how this change in branding in India affects their revenue.

In order to perform this analysis, weekly sales data from 25 different coffee shops in India was collected during a period of three months. See the average weekly sales per customer per coffee shop in the table below.

Coffee shop #	Average sales per customer
	\$12.0
1	\$8.45
2	\$6.8
3	\$11.0
4	\$6.98
5	\$20.45
6	\$16.28
7	\$14.1
8	\$8.9
9	\$14.54
10	\$15.78
11	\$19.45
12	

13	\$10.38
14	\$7.4
15	\$5.03
16	\$13.45
17	\$9.09
18	\$8.07
19	\$11.2
20	\$13.58
21	\$11.3
22	\$7.48
23	\$9.4
24	\$10.45
25	\$17.4

You have been hired to review this data. Your first task it to create a 90% confidence interval for the mean of the dataset using the sample collected from India.

What is the upper limit of this confidence interval?
Write your answer as a number with at least four decimals.

12.95831

✓

12.95831

What is the lower limit of this confidence interval?
Write your answer as a number with at least four decimals.

10.15849

✓

10.15849

Submit

You have used 1 of 2 attempts

✓ Correct (1.5/1.5 points)

Part 2.

1.5/1.5 points (graded)

Based on the sample data that you are given, calculate the prediction interval at a 90% confidence level.

What is the upper limit of this prediction interval?

Write your answer as a number with at least four decimals.

18.55797



18.55797

What is the lower limit of this prediction interval?

Write your answer as a number with at least four decimals.

4.558829



4.558829

Submit

You have used 1 of 2 attempts

✓ Correct (1.5/1.5 points)

Part 3.

2/2 points (graded)

The management is curious to know whether the premium branding in India worked or not. They want you to test if the weekly sales per customer at the Indian coffee shops is greater than their global weekly sales per customer with a confidence level of 99%.

You know the global average weekly sales per customer for MoonDoe coffee shops is \$9.25 (this would be the population mean). Therefore, you are going to conduct the following hypothesis test:

H_0 : Average weekly sales in India are not greater than the population mean at a confidence level of 99%

H_1 : Average weekly sales in India are greater than the population mean at a confidence level of 99%

Would you reject your H_0 ?

Choose the correct answer.

☒ Reject H_0 : You are 99% confident that the MoonDoe coffee shops in India have sales greater than population mean. ✓

☐ Fail to Reject H_0 : You are not 99% confident that the MoonDoe coffee shops in India have sales greater than population mean.

☐ Accept H_0 : Sales from MoonDoe cafe in India are not greater than the population mean at the 99% confidence level.

What is the p-value for this hypothesis test ?

Write your answer as a number with at least four decimals. If your answer is less than .0001 then enter 0.

0.004726046



0.004726046

Submit

You have used 1 of 2 attempts

✓ Correct (2/2 points)