Graded Assignment 2: Shaving Cream

Shaving Cream

5/5 points (graded)

You are working with the marketing team for a FMCG firm that produces shaving cream. The team believes that sales of some of the products are closely related to sales of other products. They want you to explore this in a little more depth for two products, SKU 123 and SKU 456. Unfortunately, all of the base sales data for these products has been destroyed. All that you have is the weekly summary data:

Data	SKU123	SKU456
Mean	721	1059
Standard Deviation	176	266

Part 1

The marketing team believes the correlation of these items is 0.79.

What would the covariance need to be for the marketing team to be correct?
Write your answer as a number with at least 2 decimal places.

36984.64 ✔

36984.64

Part 2

Now the marketing team wants to understand the potential weekly sales for these two products. Let the sales price for the two SKUs be 12.50, 7.75, respectively.

What is the expected weekly revenue?
Write your answer as a number with at least 2 decimal places.

17219.75 ✔

17219.75

Assume that marketing is correct and the correlation = 0.79.

What is the standard deviation of the weekly revenue?
Write your answer as a number with at least 2 decimal places.

4031.818 ✔

4031.818

Part 3

Assuming the marketing team's correlation of 0.79 is correct. What is the probability that weekly sales will be between 10,000 and 20,000 dollars?
Enter your answer in decimal form rounded to the nearest hundredth. For example, if your answer is 23.2%, you should enter .23 in the box below.

0.72 ✔

0.72

Part 4

Which of the following statements are true:
Choose the correct answer.

- [ ] The population mean is always greater than the sample mean.
- [ ] Everything else being equal, the Confidence Interval for a sample increases with the number of observations (n) in the sample.
- [x] The t-distribution is used for small sample sizes instead of the Normal.
- [x] Holding all else equal, reducing the probability of a Type I error actually increases the probability of a Type II error.

✔

Submit You have used 2 of 2 attempts

✔ Correct (5/5 points)