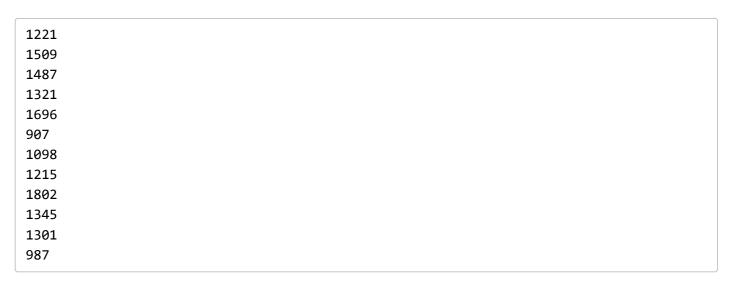# QQ3

0 points possible (ungraded)

The amount of profit that Zippy Bright makes off from all XP219 sales in a given month follows the function:

$$17.50 * X - 19000$$

Where 17.50 is the profit made off from a single XP219 sale and 19000 is the monthly fixed costs associated with selling XP219 products. Sales data from the last 12 months is below.

```
1221
1509
1487
1321
1696
907
1098
1215
1802
1345
1301
987
```

Given this function, calculate the expected value and (sample) variance of profit using the last 12 months of data.

What is the expected (average) value of profit?

Round to the nearest whole number.

| 4171 |

4171

4171

Explanation:

One way to anser this question is to calculate the profit for each month by replacing X in the equation with the monthly data set. Once you have the profit for each month, just take the average to get the expected profit.

However, with our knowledge from the previous video we know that expected value is just a linear transformation. We can simply calculate the expected value of the sales and plug this number into the profit function to find the result.

What is the (sample) variance of profit?

Round to the nearest whole number.

| 1578252239158 |

21984989

1578252239158

Explanation:
We can solve this also by using the linear transformation: Var(Profit) = 17.5^2 * Var(Sales).
Enter VAR.S in Excel and Libre Office. Enter Var in Google Sheets. Then select the appropriate
data.

Submit   You have used 3 of 3 attempts

Answers are displayed within the problem