

Answer on Question #85721 – Math – Statistics and Probability

Question

We conduct a hypothesis test to determine whether the true mean monthly rent for an apartment differs in Calgary and Edmonton (both follow normal distribution). We take a SRS, and the mean and standard deviation for the Calgary apartments are $x_1=1400$ and $s_1=300$ and Edmonton apartments are $x_2=1200$ and $s_2=250$. The test statistic is $F=2.62$ and the P-value is 0.1229.

What is the interpretation of the P-value?

- A) If the true mean rent amounts for the two cities were =, the probability of incorrectly rejecting the null hypothesis would be 0.1229.
- B) The probability the mean rent amounts for the two cities are different is 0.1229.
- C) If the true mean rent amounts for the two cities were =, the probability of observing a difference in sample means at least as extreme as \$200 would be 0.1229.
- D) If the true mean rent amounts for the two cities were not =, the probability of incorrectly failing to reject the null hypothesis would be 0.1229.

Solution

C) If the true mean rent amounts for the two cities were =, the probability of observing a difference in sample means at least as extreme as \$200 would be 0.1229.

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