

(8 points : 8 minutes)

Use the results of the experiment below to test whether the population correlation ( $\rho$ ) is negative. If you cannot figure out how to get the sample correlation coefficient quickly, use  $r = -0.32$ . (For this test, use  $\alpha = 0.025$ ).

Experiment results:

regression line:

intercept = 0.0  
slope = 0.00  
 $S_e$  = 0.00  
n = 24  
 $S_Y$  = 0.00

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9. A company makes complicated laboratory equipment for analyzing chemical samples. To learn about the performance of their machines, the company works with 9 laboratories and gives to each four (4) identical sample of material to analyze, so a total of 36 measurements are taken.

Variability in the outcomes of all 36 tests represents differences between laboratories (laboratory is considered the "treatment") and differences from test to test within the same laboratory ("error"). Complete the Analysis of Variance table below and carry out the appropriate hypothesis test to decide whether the expected (mean) results are the same for all 9 laboratories.

(Use a significance level of 0.04 for this test.)

#### Analysis of Variance Table

Source	Sum of Squares	Degrees of Freedom	Mean Square	F	p-value
Laborator			47.2		0.0297
Error					
Total	866.3				