

**Problem 1 (20 bonus points)**

A local bank has three branch offices. The bank has a liberal sick leave policy, and a vice-president was concerned about employees taking advantage of this policy. She thought that the tendency to take advantage depended on the branch at which the employee worked. To see whether there were differences in the time employees took for sick leave, she asked each branch manager to sample employees randomly and record the number of days of sick leave taken during 2008. Ten employees were chosen, and the summary of data are listed in the following table.

	<b>Sample Size</b>	<b>Sample Mean</b>	<b>Sample Variance</b>
<b>Branch 1</b>	4	17.0	8.67
<b>Branch 2</b>	3	12.3	5.33
<b>Branch 3</b>	3	20.0	7.00
<b>All Data</b>	10	16.5	15.61

Construct the following analysis of variance table. Show how you calculate those numbers. Based on this table, what is your conclusion? Use a level of significance of 0.05.

<b>Source</b>	<b>Degrees of Freedom</b>	<b>Sum of Squares</b>	<b>Mean Square</b>	<b>F Value</b>	<b>Pr &gt; F</b>
<b>Between Groups</b>					
<b>Within Groups</b>				N/A	N/A
<b>Total</b>			N/A	N/A	N/A

**Note: Show sufficient details on calculations for this problem, otherwise no credit will be given. Partial credit will be given for the correct parts of your work.**