PIERIAN DATA

EXERCISE #5 - ANOVA – ANSWER KEY

1. What does ANOVA stand for? How is it used?

2. What is the name of the probability distribution used with ANOVA?

3. We already have a test to determine the probability that two samples come from the same population (the Students t-Test). Why would we use ANOVA?

ONE-WAY ANOVA

4. A real estate firm wants to know if there is a statistical difference in sales between the months of February, March and April. The following table shows sales figures from three divisions for those months. Using ANOVA, see if there is support for the null hypothesis that all three months were equal.

	Feb	Mar	Apr
	13	21	17
	16	19	19
	16	20	21
Sum:			
Mean:			
		Overall Mean:	

Sum of Squares Groups (SSG)		
	Sum:	
	Sum x3 rows:	
	df Groups:	

Sum of Squares Error (SSE)		
	Sum:	
	df Error:	

$$MSG = \frac{SSG}{df_{Groups}} = \text{———} =$$

$$F = \frac{MSG}{MSE} = \text{———} =$$

$$MSE = \frac{SSE}{df_{Error}} = \text{———} =$$

$$F_{critical}(0.05,2,6) =$$

Based on the results, what is our conclusion?