ONE-WAY ANALYSIS OF VARIANCE

1. The table shows the yields of 6 wheat varieties, each being sown on five plots (with random allocation of the varieties to the plots). Examine the significance of the differences observed between the varieties

Wheat variety

	1	2	3	4	5	6	
	11	16	12	14	12	12	
	9	10	14	8	8	8	
	11	13	11	10	9	10	
	12	16	13	15	15	6	
	10	12	8	10	11	7	
Totals	53	67	58	57	55	43	333

$\Sigma x^2 = 3899$

2. The table gives the liver weight expressed as a percentage of the body weight of rats from groups fed on four diets. Carry out an analysis of variance to examine whether the overall means of the four groups could be the same

Diets

	A	B	C	D	
	3.42	3.17	3.34	3.64	
	3.96	3.63	3.72	3.93	
	3.87	3.38	3.81	3.77	
	4.19	3.47	3.66	4.18	
	3.58	3.39	3.55	4.21	
	3.76	3.41	3.51	3.88	($\Sigma x^2 = 397.8143$)
	3.84	3.55		3.96	
		3.44		3.91	
Totals	26.62	27.44	21.59	31.48	107.13

3. The following data are the weights of food (in kilograms) consumed per day by adult deer collected at difference times of the year. Test the null hypothesis that food consumption is the same for all the months tested.

Feb.	May	Aug.	Nov.
4.7	4.6	4.8	4.9
4.9	4.4	4.7	5.2
5.0	4.3	4.6	5.4
4.8	4.4	4.4	5.1
4.7	4.1	4.7	5.6
	4.2	4.8	