ANSC/TPSS 603
Assignment 8 - CRD with Subsampling

The effect of each of 3 preparations on the glycogen content of liver in standard units has been studied. Each of the preparations (control, compound 217, compound 217 + sugar) was used on 2 cottontail rabbits (for a total of 6 rabbits), and 4 determinations of liver glycogen content were made per rabbit. The objectives of this experiment were to determine if there is a significant difference among the three treatments (preparations) and to estimate the two variance components: readings within rabbits (sampling error), and rabbits within treatment (experimental error).

The data obtained are:

	Control		Compound 217		Compound 217 + Sugar	
Rabbits	1	2	1	2	1	2
Readings	131	148	157	152	124	140
	130	143	153	155	125	138
	125	150	154	162	136	138
	131	150	149	161	130	139
Rabbit totals	517	591	613	630	515	555
Trt totals	1108		1243		1070	

$\Sigma Y^2 = 490875$ $Y.. = 3421$

a. Identify the experimental units and the sampling units. How many replicates of each treatment are there?

b. Complete the ANOVA. Perform appropriate F-tests and draw conclusions at a 0.05 confidence level.

c. What are the variance components included in each mean squares in the ANOVA? Estimate the variance components for samples and for experimental units.