4. Test the hypothesis that the following four sets of data are homogeneous.

Set 1: 7, 8, 7, 10. Set 2: 6, 8, 9, 7. Set 3: 11, 10, 12, 9. Set 4: 12, 10, 9, 10.

(Test using $\alpha = 0.05$.) Let μ_i be the population mean of set *i*. Find the 95% confidence intervals for μ_1 , μ_2 , μ_3 . μ_4 . and for the differences $\mu_1 - \mu_2$, $\mu_1 - \mu_3$ etc.

5. The following data are the results from a randomized block experiment, which was set up to compare four treatments.

Test the hypothesis that there is no difference between the treatments.

(Test using
$$\alpha = 0.05$$
)