7) In a psychological experiment the effects of reward on learning in children was examined. 20 children were randomly assigned to four groups with different level of reward ("constant reward", "frequent reward", "infrequent reward", "no reward"). In each group the number of trials to learn a puzzle was measured.

	Number of trials to learn a puzzle				
Constant reward	12	13	11	12	12
Frequent reward	9	10	9	13	14
Infrequent reward	15	16	17	16	16
No reward	17	18	12	18	20

(Normal-distribution and variance homogeneity can be assumed.)

a) Test if there is a global difference between the groups (type I error = 5%)

b) Use an appropriate method to test the following hypotheses (type I error = 5%):

Constant reward will produce different learning results than the average of the other conditions.
- Frequent reward will produce different learning results than the average of infrequent or no reward
- Infrequent reward will produce different results learning than no reward

8) Twenty patients with high systolic blood pressure were randomly allocated to one of four treatment medications (standard medication and three other medications). Someone wants to test each of the three other medications against the standard medication.

	systolic blood pressure [mmHg]				
Standard medication	145	155	170	160	155
Medication A	109	110	120	130	140
Medication B	142	143	141	142	142
Medication C	127	138	120	121	122

(Normal-distribution and variance homogeneity can be assumed.)

Choose an appropriate statistical test (type I error = 5%) for evaluating this research question.