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STATISTICS ENSET 2011 SECOND CYCLE

THE UNIVERSITY OF BAMENDA
HIGHER TECHNICAL TEACHER'S TRAINING COLLEGE
ENTRANCE EXAMINATION: ACADEMIC YEAR 2011-2012
SECOND CYCLE: ECONOMICS SERIES
MINOR: STATISTICS

1. Distinguish between:
   a) Type I and type II errors; b) A parameter and a statistic.
2. What is meant by: a) an unbiased estimator? ; b) The level of significance of a test? C) The p-value of a test? ; d) Random sampling?
3. For the set of numbers 3, 6, 7,9,10 the mean is 7 and the standard deviation is $\sqrt{6}$. If each number is increased by 3. Find the new mean and the standard deviation. Comment on your answer.
4. The table below displays the lengths of 32 leaves measured correct to nearest mm.

Length(mm)	20-22	23-25	26-28	29-31	32-34
Frequency	3	6	12	9	2

   Find the mean length and standard deviation.
5. a) What is the probability of drawing an ace or a diamond on a single pick from a deck of cards? b) If the probability of hitting a target on a single shot is 0.3, what is the probability that in 4 shots the target will be hit at least 3 times?
6. The data on the table below show the relationship between gross national product (Y) and imports (X) of a country in 1998. (Figures are in 10^6F cfa).

Y	7	7.2	8	9.5	8.2	10	9
X	6.5	7	8	8	10	12	8

a) Estimate the OLS regression equation of Y on X. Do the estimates appear with the expected signs?
b) How well does the estimated model fit the scatter of observations?

7. The age distribution for a sample of 50 persons arrested for drunk driving in Yaoundé is displayed in table below.

Age group	17-25	26-35	36-45	46-55	56-
Arrests	14	16	12	9	5

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It is hypothesized that the number of persons arrested for this offence is the same for all age groups. Compute the Chi-square value, and test the validity of this hypothesis at the 5% level of significance (Note: tabular chi-square at 5% with 4 df given 9.49).

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