

STATISTICS

Lab8

Non-parametric tests

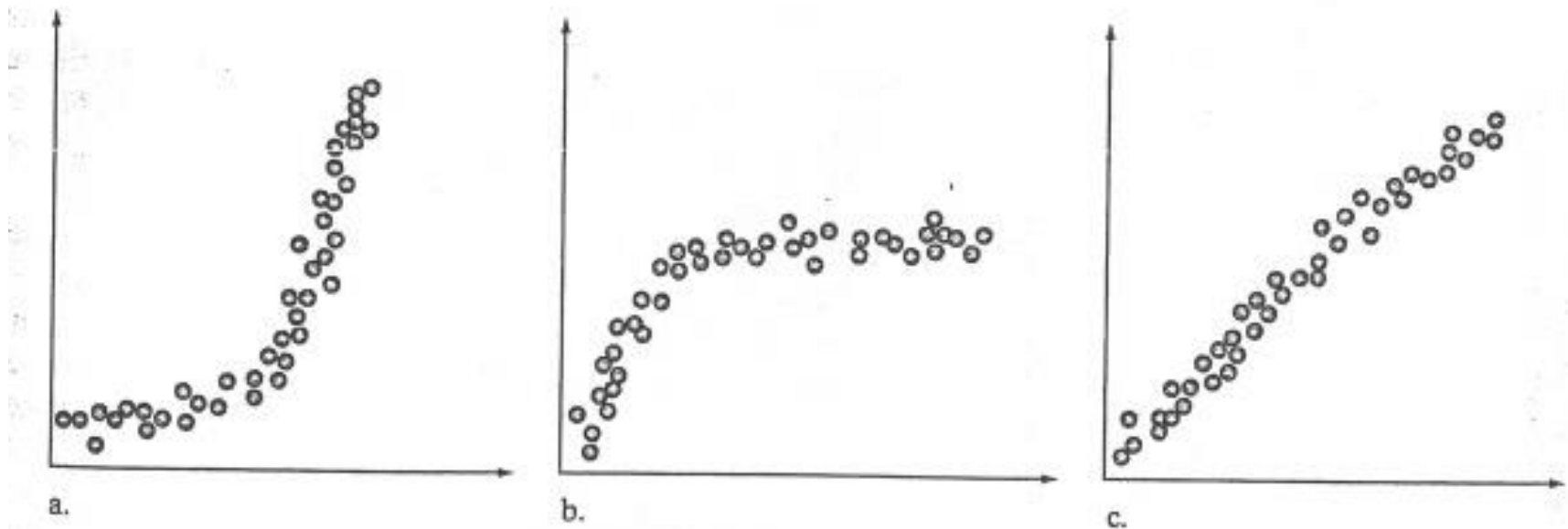
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Exercise 1

The figure below shows normal probability plots. Which plot indicates that the data are approximately normally distributed?



Exercise 2

Use the data from file CRASH.xls. These data show the results of the crash tests for new cars conducted for the National Highway Traffic Safety Administration (NHTSA).

- a) Use the descriptive methods to check whether the the driver's head injury rating (variable DRIVHEAD) is normally distributed.
- b) Does a statistical test supports your conclusion from point a)?

⇒ see file CRASH.xls

Exercise 3

Use the data from file BWECS.xls. These data give the return on a \$100 investment made in CEO's company three years earlier (variable 'return')

- a) Use the descriptive methods to check whether the return on a \$100 investment made in CEO's company three years earlier is normally distributed
- b) Does a statistical test supports your conclusion from point a)?

⇒ see file BWECS.xls

Exercise 4

A random sample of 80 lorries was drawn from the population of lorries queuing on the Polish-Ukrainian border. The sample mean waiting time on the border occurred to be 12 hours with a standard deviation of 4 hours. In order to verify the hypothesis whether the waiting time is normally distributed the sample data was grouped into 7 intervals.

- a) Compute and interpret the hypothetical absolute frequency in the first interval if $x_{11}=8.0$ hours
- b) How high is the test statistic if there are no reasons to claim the waiting time is normally distributed? Assume $\alpha=0.05$.