Medical Faculty - Undergraduates - Exam of Biostatistics

31.7.2013

Name:	ID Number:	Points:	Exam831

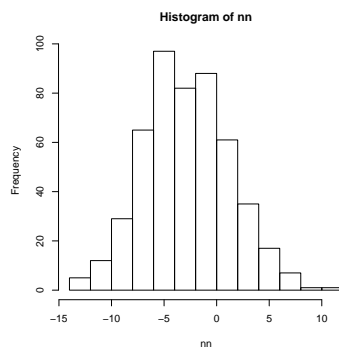1 [5] Which of the following is a measure of central tendency?

   (a) mean **T**

   (b) range **F**

   (c) variance **F**

   (d) standard deviation **F**

   (e) coefficient of correlation **F**

   (f) mode **T**

   (g) median **T**

   (h) frequency **F**

2 [15] A genetically modified mouse does not survive the first month of life with probability 0.40.

   (a) We planned an experiment that included 10 mice. What is the probability that after a month not more than a mouse will survive? $X = 1$ **survive,** $P(X = 1) = p = .6, Y = sum(X), P(Y <= 1) = P(Y = 0) + P(Y = 1) = (1 - p)^1 0 + 10 * p(1 - p)^9$ **->** $P(Y <= 1) = 0.0017$

   (b) What is the expected number of mice still alive after the first month? $E(X) = pn-> E(X) = 6$

3 [15] Data for variable nn are represented graphically.

   (a) Is standard deviation 1, 2 or 4? **4**

   (b) Is mean -3, 0 or 3? **-3**

4 [15] What is the probability of obtaining exactly 1 tails if we toss a fair coin 2 times?

Number of trials: n=2, Number of successes=k=1, probability of success: p=0.5. Using binomial distribution: $P(X = k|n, p) =$**0.75.**