
Ahsanullah University of Science & Technology

BSc (Hons) in CSE

Class Test - II

Subject: Mathematics III (MATH 2101)

Answer to the point of all questions. Please submit your answer script in pdf file to mrkarim55556@gmail.com due to August 19, 2020.

1. Mr. James McWhinney, president of Daniel-James Financial Services, believes there is a relationship between the number of client contacts and the dollar amount of sales. To document this assertion, Mr. McWhinney gathered the following sample information. The x column indicates the number of client contacts last month and the y column shows the value of sales (\$ thousands) last month for each client sampled

Number of Contracts, x	Sales (\$ thousands)	Number of Contracts	Sales (\$ thousands)
$z + 1$	24	23	30
12	14	48	90
20	28	$z + 2$	85
16	30	55	120
46	80	50	$z + 3$

where z is the sum of the last two digits of your class ID number (eg. $z = 4 + 5 = 9$ if your id is 01466345).

- (a). Find the simple linear correlation coefficient between the number of client contacts and the dollar amount of sales. Interpret the results.
- (b). Determine the regression equation.
- (c). Determine the number of kilowatt-hours, in thousands, for a six-room house.
- (d). Compute the goodness-of-fit for estimated equation.
- (e). For a small company with 50 client contracts, estimate the amount of sales.

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- 2.** A telemarketer makes 15 phone calls per hour and is able to make a sale on 30% of these contacts. During the next $(z/2 + 1)$ hours, where z is the sum of the last two digits of your class ID number (eg. $z = 4 + 5 = 9$ if your id is 01466345), find:
- (a). The probability of making exactly four sales.
 - (b). The probability of making no sales.
 - (c). The probability of making exactly two sales.
 - (d). The mean number of sales in the 2-hour period.
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