

U L C  
 (T-S.) K 15 fragm. 98  
 26 high middle brown  
 18 broad almost vertical fibres, distinct 2mm from each other evenly distributed

165. Estate of Mission G. Yaqūb V37 6  
 died in Suakin on  
 Monday 7 Sha'ban 503  
 Annex. ~~400~~ 1110

The paper is divided into 2 columns, right column left blank  
 on verso, the left is blank. Was it intended to have  
 (i.e. the same paper the a copy made in Arabic  
 paper)

Is this to have to have this part of for the use of a Muslim court?

Seems to be handwriting of Hillel b. Ali. He was 775 a merchant. This seems  
 to be a copy made from a draft, see ll. 3. 9. 20. 23. 31

כאן נאמר

212. in 200' 212 2 perhaps to be pronounced Nasim

3 the word possibly only carefully to be had

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8 seems to stand for

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אלגוריתם האינדוקציה - ז"א

20  $\frac{1}{n} \sum_{i=1}^n x_i$   $\frac{1}{n} \sum_{i=1}^n x_i$   
 21  $\frac{1}{n} \sum_{i=1}^n x_i^2$   $\frac{1}{n} \sum_{i=1}^n x_i^2$   
 22  $\frac{1}{n} \sum_{i=1}^n x_i^3$   $\frac{1}{n} \sum_{i=1}^n x_i^3$

23  $\frac{1}{n} \sum_{i=1}^n x_i^4$   $\frac{1}{n} \sum_{i=1}^n x_i^4$

24  $\frac{1}{n} \sum_{i=1}^n x_i^5$   $\frac{1}{n} \sum_{i=1}^n x_i^5$

25  $\frac{1}{n} \sum_{i=1}^n x_i^6$   $\frac{1}{n} \sum_{i=1}^n x_i^6$

26  $\frac{1}{n} \sum_{i=1}^n x_i^7$   $\frac{1}{n} \sum_{i=1}^n x_i^7$

27  $\frac{1}{n} \sum_{i=1}^n x_i^8$   $\frac{1}{n} \sum_{i=1}^n x_i^8$

28  $\frac{1}{n} \sum_{i=1}^n x_i^9$   $\frac{1}{n} \sum_{i=1}^n x_i^9$

29  $\frac{1}{n} \sum_{i=1}^n x_i^{10}$   $\frac{1}{n} \sum_{i=1}^n x_i^{10}$  *Combinatorial identity for  $\sum_{i=1}^n x_i^k$*

30  $\frac{1}{n} \sum_{i=1}^n x_i^{11}$   $\frac{1}{n} \sum_{i=1}^n x_i^{11}$  *for  $\lambda = \mu = 2$*

31  $\frac{1}{n} \sum_{i=1}^n x_i^{12}$   $\frac{1}{n} \sum_{i=1}^n x_i^{12}$  *using the identity  $\sum_{i=1}^n x_i^k = \frac{1}{k} \sum_{j=1}^k \binom{k}{j} \sum_{i=1}^n x_i^j$*

32  $\frac{1}{n} \sum_{i=1}^n x_i^{13}$   $\frac{1}{n} \sum_{i=1}^n x_i^{13}$

33  $\frac{1}{n} \sum_{i=1}^n x_i^{14}$   $\frac{1}{n} \sum_{i=1}^n x_i^{14}$

34  $\frac{1}{n} \sum_{i=1}^n x_i^{15}$   $\frac{1}{n} \sum_{i=1}^n x_i^{15}$

35  $\frac{1}{n} \sum_{i=1}^n x_i^{16}$   $\frac{1}{n} \sum_{i=1}^n x_i^{16}$

Combinatorial identity for  $\sum_{i=1}^n x_i^k$

[1]

$\sum_{i=1}^n x_i^k$