

Chapter 14 / Example 2

Test for binomial probability

Find Spearman's rank correlation coefficient for the following sets of data.

a

x	23	34	17	23	29	45
y	12	10	14	11	11	8

b

x	1	2	3	4	6
y	6	7	8	8	16

Press **MENU** 7 **TABLE**.

Press **F5** SET and change the settings so that the table starts from 1 and ends at 20.

Press **EXIT**.

Table Setting
X

Start: 1
End : 20
Step : 1

Press **OPTN** **F6** \triangleright **F3** STAT **F1** DIST **F5** BINOMIAL **F2** Bcd

Type the lower bound x, the upper bound 20, 20 as the number of trials and 0.5 as the probability of success, separated by commas. Close the parentheses and press **EXE**.

Table Func : Y=
Y1=BinomialCD(x, [—]
Y2: [—]
Y3: [—]
Y4: [—]
Y5: [—]
Y6: [—]
[SELECT] [DELETE] [TYPE] [STYLE] [SET] [TABLE]

Press **F6** TABLE

The function is shown in the table.

X	Y1
1	0.9999
2	0.9999
3	0.9997
4	0.9987

1
[FORMULA] [DELETE] [ROW] [EDIT] [GPH-CON] [GPH-PLT]

Scroll down the table using \blacktriangledown

From the table, $P X \geq 14 > 0.0577$ and $P X \geq 15 > 0.0207$.

The critical region is $X \geq 15$

The least possible significance level is 2.07%

18 is in the critical region so we reject the null hypothesis.

Y1=BinomialCD(x, 20, 20)

X	Y1
12	0.2517
13	0.1315
14	0.0576
15	0.0206

0.02069473267
[FORMULA] [DELETE] [ROW] [EDIT] [GPH-CON] [GPH-PLT]

$P X \geq 18 = 0.000201$

The p-value is 0.000201.

Y1=BinomialCD(x, 20, 20)

X	Y1
15	0.0206
16	5.9E-3
17	1.2E-3
18	2E-4

2.012252808 $\times 10^{-4}$
[FORMULA] [DELETE] [ROW] [EDIT] [GPH-CON] [GPH-PLT]