

$N=5, n=2$

كل تجربة 2 نتائج

العدد من النتائج $C_N^n = C_5^2 = 10$

توزيع توزيع الكمية المتوقعة (النتيجة)

$\mu_r = P = \frac{3}{5} = 0,6$

$\sigma_x = \sqrt{\frac{P(1-P)}{n}}$

- (ناجح)
- (فشل)
- (ناجح)
- (فشل)
- (ناجح)
- (فشل)
- (ناجح)
- (فشل)
- (ناجح)
- (فشل)

جدول التوزيع

نتيجة	عدد
0	1
1	6
2	3
3	10

25

النتيجة	عدد	احتمال
(2, 5)	1	0,1
(3, 5)	1	0,1
(4, 5)	1	0,1
(5, 5)	1	0,1
(3, 2)	1	0,1
(4, 2)	1	0,1
(5, 2)	1	0,1
(4, 3)	1	0,1
(5, 3)	1	0,1
(5, 4)	1	0,1

نتيجة	احتمال	نتيجة
0	$0,1 = \frac{1}{10}$	0
1	$0,6 = \frac{6}{10}$	1
2	$0,3 = \frac{3}{10}$	2
3	1	3

$E_{x_{n=5, p=0.6}}(0,5) = 0$

$\mu = 0,6$

2

Amal Qarabuluzov, 11/04/2021

~~Handwritten scribbles~~

$$\sigma_x = \sqrt{\frac{p(1-p)}{n} \left(\frac{N-n}{N-1} \right)} = \sqrt{\frac{0,6(0,4)}{2} \left(\frac{5-2}{5-1} \right)}$$

$$= \sqrt{\frac{0,24}{2} \left(\frac{3}{4} \right)}$$

$$= \sqrt{0,12 \left(\frac{3}{4} \right)}$$

$$= \sqrt{0,09} = 0,3$$

~~Handwritten scribbles~~

$$\sigma_x^2 = E(x^2) - [E(x)]^2$$

$$= 0,4(-0,6)^2$$

$$= 0,4(-0,36)$$

$$= 0,09$$

$$\sigma_x = \sqrt{0,09} = 0,3$$

x	Wahrscheinlichkeit	Erwartungswert
0	0,5	0
0,15	0,6	0,09
0,3	0,3	0,09
0,45	1	E

~~Handwritten notes and scribbles~~

~~Handwritten scribbles~~

$n = 100$

$$\sigma_v = \sqrt{\frac{p(1-p)}{n}} = \sqrt{\frac{0,6(0,4)}{100}} = \sqrt{0,0024} = 0,04$$

$V \leq \frac{1}{1000}$

$\frac{30}{1000}$

$$+ P(X \leq 0,7) = P\left(z \leq \frac{0,7 - 0,6}{0,04}\right)$$

~~0,04~~

$$= P(z \leq 2,5) = P(-\infty < z < 2,5) \\ = \Phi(2,5) + \Phi(\infty) \\ = 0,4938 + 0,5$$

$$= 0,9938 \\ = \boxed{99,38\%}$$

~~Handwritten scribbles and text~~

④

z (circled) $\Phi(2,5)$

65

103 Answer, d

$$E = 4, \quad \alpha = 99\%, \quad \delta = 9.$$

~~2~~ $n \geq \left(\frac{z_{\alpha/2} \delta}{E} \right)^2$ $z_{0,005} = 2,575.$

2 $n \geq \left(\frac{2,575(9)}{4} \right)^2 = \left(\frac{23,175}{4} \right)^2$

$n \geq 5,79$, $n \geq 6$

5