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$$\beta = \frac{n\sum xy - \sum x \sum y}{n\sum x^2 - (\sum x)^2}$$

$$\alpha = \bar{Y} - \beta\bar{x}$$

$$\alpha = 73 - 1{,}062 . 166{,}3$$

$$\beta = \frac{10 . 122317 - 730 . 1663}{10 . 277421 - 1663^2}$$

$$\alpha = -103{,}6106$$

$$Y = 1{,}281 + 0{,}469x$$

$$\beta = 1{,}06237704 \ldots$$

$$Y = 1{,}281 + 0{,}469 . 15 = 8{,}316$$

$c(x+y)$ $x = 1, 2$
$y = 1, 2, 3$

$$c(1+1) + c(1+2) + c(1+3) + c(2+1) + c(2+2) + c(2+3) = 1$$

$$21c = 1$$
$$c = \frac{1}{21}$$

$n = 8$

$$p = \frac{6}{24} = \frac{1}{4} = 0{,}25$$

$$P(x \geq 2) = 0{,}367$$

$$\frac{\cancel{e^{-\lambda}} \lambda^1}{1!} = \frac{\cancel{e^{-\lambda}} \lambda^2}{2!}$$

$$P(x \geq 4) = 0{,}0902 \ldots$$

$\mu = 7 \to np$

$\sigma^2 = 2{,}1 \to \sigma = \sqrt{2{,}1}$

$2{,}1 = npq$

$q = 0{,}3 \quad p = 0{,}7$

$n = 10$

$\lambda = 2$

$$P(x \leq 6)$$

$E(x) = 4 \quad E(x^2) = 41 \quad E(xY) = 6$

$E(y) = -1 \quad E(y^2) = 10$

$$\sigma_x = \sqrt{41 - 4^2} = 5$$

$$\sigma_y = \sqrt{10 - 1^2} = 3$$

$$\frac{6 - (4 . -1)}{5 . 3} = \frac{10}{15}$$

$$\int_1^{1{,}5+k} \frac{1}{2-1} dx = \frac{1}{6}$$

$$1{,}5 + k - 1 = \frac{1}{6}$$

$$k = \frac{1}{6} - 0{,}5 = -\frac{1}{3}$$

$p = 0{,}4$

$N = 10$

$n = 4$

$k = 4$

$$P(x=3) = \frac{C^4_3 . C^6_{4-3}}{C^{10}_4} = \frac{4}{35}$$

$$\int_2^7 \frac{1}{10-2} dx = \frac{1}{8}x \Big|_2^7 = \frac{5}{8}$$

$$\frac{a+b}{2} = 10 \qquad \frac{(b-a)^2}{12} = 12$$

$a+b = 20 \qquad b - a = 12 \qquad b = 16$

$a = 4$

$$f_x(x) = \frac{1}{2}e^{-\frac{1}{2}x} \to \lambda = \frac{1}{2}$$

$$E(x) = \frac{1}{\lambda} = 2 \quad Var = \frac{1}{\lambda^2} = 4$$

$$\int_3^\infty \frac{1}{2}e^{-\frac{1}{2}x}\,dx = -e^{-\frac{1}{2}x}\Big|_3^\infty = -\frac{1}{e^{\frac{1}{2}x}}\Big|_3^\infty = 0 + \frac{1}{e^{1,5}} = 0,2231$$

$$M_x(t) = e^{(\overset{\mu}{3}t + 8t^2)} \qquad \frac{\sigma^2}{2} = 8 \qquad \sigma^2 = 16$$

$$E + Var = \mu + \sigma^2 = 19$$

$f_x(1) = \frac{5}{21}$ $\qquad f_x(x)$

$f_x(2) = \frac{7}{21}$

$f_x(3) = \frac{9}{21}$

$$\phi\left(\frac{850-800}{25}\right) = \phi(2) = 0,97725$$

$\mu = 800$

$\sigma = 40$

$$P(778 \le X \le 834)$$

$$= \phi\left(\frac{834-800}{40}\right) - \phi\left(\frac{778-800}{40}\right)$$

$$= \phi(0,85) - \phi(-0,55)$$

$$= 0,8023 - 0,2912$$

$$= 0,5111$$

$$\int_{2,5}^{4} \frac{1}{3}e^{-\frac{1}{3}x}\,dx = -e^{-\frac{1}{3}x}\Big|_{2,5}^{4}$$

$$= \frac{1}{e^{\frac{2,5}{3}}} - \frac{1}{e^{\frac{4}{3}}}$$