

作业纸

课程名称: 概统

班级:

教学班级:

08012204

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2. $E(X+Y) = 0$

~~$P(X+Y) = 1$~~ $P(X+Y) = P(X) + P(Y) + 2P(X \cap Y) = 50 - 2 = 48$

$P(|X+Y| < 6) \geq 1 - \frac{6^2}{6^2} = 1 - 1 = 0$

4. $P(|X - 5| < 25) \geq 1 - \frac{D(X)}{25^2}$

$D(X) = np(1-p) = 100 \cdot \frac{1}{10} \cdot \frac{9}{10} = 90$

$\therefore P(|X - 5| < 25) \geq 1 - \frac{90}{625} = \frac{535}{625} = \frac{107}{125}$

6. $E(X) = \int_0^1 x \cdot 6x(1-x) dx$

$= \int_0^1 6x^2 - 6x^3 dx$

$= (2x^3 - \frac{3}{2}x^4) \Big|_0^1 = \frac{1}{2}$ 1/2

9. $\lim_{n \rightarrow \infty} \frac{1}{n} \sum_{i=1}^n X_i(X_i - 1)$

$= E(X^2 - X) = E(X^2) - E(X) = D(X) + E(X)^2 - E(X)$

$= \lambda + \lambda^2 - \lambda = \lambda^2$

10. $F(X) = \int_0^x f(x) = \int_0^x e^{-(x-a)} dx = -e^{-(x-a)} \Big|_0^x = -e^{-(x-a)} + e^{-a}$

$\lim_{n \rightarrow \infty} P_n \rightarrow \alpha$

联系方式: _____