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概率论与数理统计

首页 任务 资料 通知 作业 考试 PBL

姓名: Hollow Man 班级: 班级6 成绩: 88分

Hollow Man

- **一.简答题** (共5题,100.0分)
 - ¶ 概率密度函数1.docx

正确答案:

₩概率密度函数1答案.docx

我的答案:

(1)
$$\int_{-\infty}^{+\infty} f(x) dx = \int_{-1}^{-1} k(x+1) dx = 1$$

$$\int_{-1}^{-1} k(x+1) dx = k(\frac{3}{2} + x) \Big|_{-1}^{-1} = k(\frac{3}{2} + \frac{1}{2}) = 1$$

$$\therefore k = \frac{1}{2}$$
(2) $P(x > 0) = \int_{0}^{+\infty} f(x) dx = \int_{0}^{-1} \frac{1}{2} (x+1) dx = \frac{3}{4}$
(3) $F(x) = \int_{-\infty}^{x} f(x) dx$

$$\frac{1}{2} x = -1 \text{ add } F(x) = 0$$

$$\frac{1}{2} -(-\infty)x = 1 \text{ add } F(x) = 0$$

$$\frac{1}{2} -(-\infty)x = 1 \text{ add } F(x) = 1$$

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等级: A

- 2 某人上班路上所需的时间X~N(30,100)(单位: min),已知上班时间是8:30,他每
 - 天7:50出门,求:
 - (1) 某天迟到的概率;
 - (2) 一周 (以5天计) 最多迟到一次的概率.

正确答案:

(1)0.1587 (2)0.819

我的答案:

等级: A

某地区18岁的女青年的血压服从正态分布N(110,12²). 在该地区随机地选一女青年,测量她的血压X,求 $(1)P\{X \le 105\}, P\{100 < X \le 120\};$ (2)确定最小的x, 使P{X>x}≤0.05.

正确答案:

(1)0.3383,0.5952 (2)129.74

我的答案:

(1)
$$P(x \le | 0 \le = \Phi(\frac{| 0 \le -1 | 0}{| 1 \ge}) \simeq \Phi(-0.42) = 0.337|$$

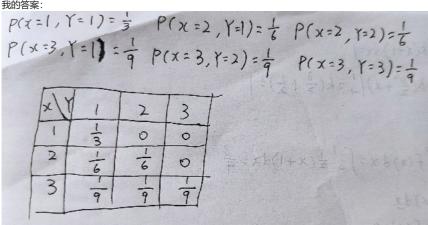
 $P(| 0 \le | x \le | 2 \ge) = \Phi(\frac{| 2 \ge -1 | 0}{| 1 \ge}) - \Phi(\frac{| 2 \ge -1 | 0}{| 1 \ge}) \simeq \Phi(0.83) = \Phi(-0.83) \simeq 0.5934$
(2) $P(x > x) = | -\Phi(\frac{| x - 1 | 0}{| 1 \ge}) < 0.05$
 $\frac{| x - 1 | 0 \ge}{| 1 \ge} > 1.645$
 $| x = 129.74$

等级: A

4 从1, 2, 3三个数字中随机地取一个,记所取的数为X,再从1到X的整数中随机地取一个,记为Y,试求(X, Y)的联合分布 列。

正确答案:

■答案2.docx



等级: E

5 箱子中装有10件产品,其中2件是次品,每次从箱子中任販一件产品.共取2次.定

义随机变量X, Y如下:

$$X = \left\{ egin{array}{ll} 0, & ext{ 若第一次取出正品} \\ 1, & ext{ 若第一次取出次品,} \end{array}
ight. Y = \left\{ egin{array}{ll} 0, & ext{ 茬第二次取出正品} \\ 1, & ext{ 茬第二次取出次品,} \end{array}
ight.$$

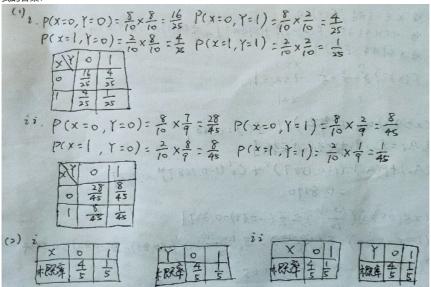
分别就下面两种情况(i)放回抽(ii)不放回抽样求:

- (1)二维随机变量(X, Y)的联合分布律;
- (2)关于X及关于Y的边缘分布律;

正确答案:

- $(1)(i)P(X=0,\ Y=0)=16/25; P(X=0,\ Y=1)=4/25; P(X=1,\ Y=0)=4/25; P(X=1,\ Y=1)=1/25; P(X=1,\ Y=0)=4/25; P(X=1,\ Y=0)=1/25; P(X=$ (ii)P(X=0, Y=0)=28/45; P(X=0, Y=1)=8/45; P(X=1, Y=0)=8/25; P(X=1, Y=1)=1/45; P(X=0, Y=0)=8/25; P(X=1, Y=0)=8/25; P(X=1
- (2)(i) P(X=0)=4/5; P(X=1)=1/5; P(Y=0)=4/5; P(Y=1)=1/5;
 - (ii) P(X=0)=4/5; P(X=1)=1/5; P(Y=0)=4/5; P(Y=1)=1/5;

我的答案:



等级: A