

样本空间与事件

2015 年 3 月 11 日

一、选择题

1.D

2.C

二、填空题

1.A、B 恰有一个发生

2.B

三、解答题

1.(1)

$$\Omega = \{(x, y) | 0 \leq x \leq 1, 0 \leq y \leq 1\}$$

$$A = \{(x, y) \in \Omega | \sqrt{x^2 + y^2} < \frac{1}{2}\}$$

$$B = \{(x, y) \in \Omega | x < y, \frac{1}{3} < y < 1\}$$

(2).

$$\Omega = \left\{ \begin{pmatrix} (1, 1) & (1, 2) & \cdots & (1, 6) \\ (2, 1) & (2, 2) & \cdots & (2, 6) \\ \vdots & \vdots & \vdots & \vdots \\ (6, 1) & (6, 2) & \cdots & (6, 6) \end{pmatrix} \right\}$$

$$A = \left\{ \begin{pmatrix} (1, 1) & (1, 2) & \cdots & (1, 6) \\ (3, 1) & (3, 2) & \cdots & (3, 6) \\ (5, 1) & (5, 2) & \cdots & (5, 6) \end{pmatrix} \right\}$$

$$B = \{(1, 3), (2, 2), (3, 1)\}$$

2.

(1)

$$A\bar{B}\bar{C} = \{\omega \in \Omega | 0 \leq \omega < \frac{1}{4}\}$$

(2)

$$\bar{A}\bar{B}\bar{C} = \{\omega | \omega = 1\}$$

(3)

$$\overline{ABC} = \{\omega | 0 \leq \omega \leq 1\} = \Omega$$

(4)

$$\overline{A}(B \cup C) = \{\omega | \frac{1}{3} \leq \omega < 1\}$$

(5)

$$A \cup B \cup C = \{\omega | 0 \leq \omega < 1\}$$

3.

(1) A, B, C 只发生一个

(2) A, B, C 至少有两个同时发生

(3) A 发生且 B, C 至少有一个不发生

(4) A, B, C 最多发生一个