

27, 28, 29, 30

27. $x \in [-1, 1]$.

$$A = \{x < 0\}$$

$$B = \{|x - 0,5| < 1\}$$

$$C = \{x > 0,5\}$$

$\rightarrow B = \left(\cancel{x = 0,5} \right) \rightarrow -1 < x - 0,5 < 1$
 $\rightarrow -0,5 < x \leq 1$ (if $x \neq$

$\rightarrow B = \{-0,5 < x \leq 1\}$.

$$a) A = [-1, 0)$$

$$B = (-0,5, 1]$$

$$C = (0, 75, 1]$$

$$\rightarrow P(A) = \frac{A}{2} = \frac{1}{2}$$

$$P(B) = \frac{B}{2} = \frac{1,5}{2} = \frac{3}{4}$$

$$[A \cap B = A + B - AB] \quad A \cap B = (-0,5, 0)$$

$$\rightarrow P(A \cap B) = \frac{0,5}{2} = \frac{1}{4}$$

$$A \cap C = \emptyset \Rightarrow P(A \cap C) = 0$$

C1:

$$b) A \cup B = [-1, 1] \Rightarrow P(A \cup B) = 1$$

$$A \cup C = [-1, 0) \cup (0, 75, 1] = \frac{1}{2} + \frac{1}{8} = \frac{5}{8}$$

$$A \cup B \cup C = [-1, 1] = 1$$

$$C2: P(A) = \frac{1}{2}$$

$$P(A \cup B) = P(A) + P(B) - P(AB)$$

$$= \frac{1}{2} + \frac{3}{4} - \frac{1}{4} = 1$$

$$P(B) = \frac{3}{4}$$

$$P(A \cup C) = P(A) + P(C)$$

$$= \frac{1}{2} + \frac{1}{8} = \frac{5}{8}$$

$$P(C) = \frac{1}{8}$$

$$P(A \cup B \cup C) = P(A) + P(B) + P(C) - P(AB) - P(BC) - P(AC) + P(ABC) = \frac{1}{2} + \frac{3}{4} + \frac{1}{8} - \frac{1}{4} - \frac{1}{8} - \frac{1}{8} + \frac{1}{8} = 1$$



$$28. \quad P([0,1]) = 2P([-1,0])$$

$$a) \quad A = [0,1] \Rightarrow P(A) = \frac{2}{3}$$

$$B = [-1,0] \Rightarrow P(B) = \frac{1}{3}$$

$$\begin{cases} P(A) = 2P(B) \\ P(B) + P(A) = 1 \end{cases}$$

$$\text{Toán học: } \begin{cases} P([0,1]) = \frac{2}{3} \\ P([-1,0]) = \frac{1}{3} \end{cases}$$

$$\text{Truyền phân: } \begin{cases} P([0,n]) = \frac{2n}{3} \quad (n \in (0,1)) \\ P([-1,n]) = \frac{1}{3} \quad (n \in [-1,0]) \end{cases}$$

$$b) \quad P([0,1]) = \frac{2}{3} \quad \begin{array}{c} B \quad A \\ \text{---} \end{array}$$
$$P([-1,0]) = \frac{1}{3}$$

$$P(A \cap B) = P([0,1] \cap [-1,0]) = 0$$

$$P(A \cup B) = P([-1,1]) = 1$$

$$P(A \cup B) = P(A) + P(B) - P(AB)$$

$$2 \cdot \frac{2}{3} + \frac{1}{3} - 0 = 1$$

30.

a) ~~Cho~~ ^{biết} $(-\infty, r] \subset (-\infty, s]$
 $\Rightarrow P[-\infty, r] \leq P[-\infty, s]$

b) $P[(r, s]] = P[-\infty, s] - P[-\infty, r]$

25. Hệ quả 2. $A \subset B \Rightarrow P(A) \leq P(B)$

$$P[A \cup B \cup C] \leq P[A] + P[B] + P[C]$$

$$\Rightarrow P[A] + P[B] + P[C] - P[AB] - P[BC] - P[CA] + P[ABC]$$

$$(\cancel{A \cap B} \subset A) \Rightarrow$$

$$\text{Ta cần chứng minh } P[ABC] - P[AB] - P[BC] - P[CA] \leq 0$$

$$(\text{vì } ABC \subset AB, BC, CA)$$

$$\Rightarrow P[ABC] \leq P[AB], P[BC], P[CA]$$

$$\Rightarrow P[ABC] - P[AB] - P[BC] - P[CA] \leq 0 \text{ (đpcm)}$$

b) Phương pháp quy nạp:

$$P\left[\bigcup_{k=1}^n A_k\right] \leq \sum_{k=1}^n P[A_k]$$

* PH 1: $k=1 \Rightarrow P[A_1] \leq P[A_1] \rightarrow$ luôn đúng