

$$1) \frac{19!}{3! \cdot 4!}$$

احمد عاصي
جامعة بغداد
جامعة بغداد
S.W. 208601374

2) num of Permutation of $\{a, b, c\}^3 = 6$.

$$\begin{aligned} a &<_{ac} ab \\ b &<_{ba} ba \\ c &<_{ca} cb \end{aligned}$$

3) $P(A)$ and $P(B)$

$$\begin{aligned} \rightarrow &= \frac{1}{2} \times \frac{1}{4} = \frac{1}{8}, \\ * &\text{---} \rightarrow \text{---} \text{---} \text{---} \text{---} \text{---} \text{---} \\ \frac{1}{4} + \frac{2}{4} &= \frac{3}{4}. \end{aligned}$$

4)

- 1 - none of three is defective = $\frac{3}{10}$,
- 2 - exactly one of three defective = $\frac{1}{5} + \frac{2}{10} = \frac{2}{5}$

3 - at least one of three is defective

$$\begin{aligned} 5) \quad \cancel{\frac{1}{3}} + \cancel{\frac{1}{2}} &= \cancel{\frac{5}{6}} \\ \cancel{\frac{1}{3}} + \frac{1}{6} &= \frac{1}{2}, \end{aligned}$$

$$6. \quad P(A) = \frac{3}{8}$$

$$P(B) = \frac{1}{2}$$

$$P(AB) = \frac{1}{2}$$

$$(i) \quad P(A^c) = \frac{5}{8}.$$

$$(ii) \quad P(B^c) = \frac{1}{2},$$

$$(iii) \quad P(A^c \cap B^c) = 1 - P(A \cup B)$$

$$1 - (\frac{3}{8} + \frac{1}{2} - \frac{1}{2}) = \frac{5}{8}.$$

$$(iv) \quad P(A^c \cup B^c) = 1 - (A \cap B)$$

$$1 - \frac{1}{2} = \frac{1}{2}.$$

$$(V) \quad P(A \cap B^c) = A - B = P(A) - P(A \cap B)$$

$$P(A \cap B^c) = \text{jetz}$$

$$(Vi) \quad P(B \cap A^c) = B - A = P(B) - P(A \cap B)$$

$$\frac{1}{2} - \frac{1}{2} = 0$$

$$\neq) \quad P(A) = 36$$

$$8) \quad \sum P(X) = \kappa^2 \cdot 2 - 8$$

$$\kappa^2 \cdot 8 = 1 \quad \kappa^2 = 9$$

$$\boxed{\kappa = 3}$$

$$g) \quad P(A \cap B) = \text{jetz}$$

$$P(\bar{A} \cap \bar{B}) = 1 - P(A \cup B)$$

$$1 - (0,35 + 0,45) \\ P(\bar{A} \cap \bar{B}) = 0,2$$