P31. 1

(1) $\Omega = \{2, 3, 4, 5, 6, 7\}$

(2) $\Omega = \{4, 5, 6, 7, 8, 9, 10\}$.

(3) $\Omega = \{(t_1, t_2) \mid 0 \le t_1 \le 24h, 0 \le t_2 \le 24h\}$.

(4) $\Omega = \{0, 1, 2, \cdots, n\}$

(5) $\Omega = \{1000X \mid X = 0, 1, \cdots, 10000\}$.

P32. 4

~~(1) $A\bar{B} \cup B = A(\Omega - \bar{B}) \cup B = (A - AB) \cup B = AB \; A \cup B$~~

(1) $A\bar{B} \cup B = (B \cup A)(B \cup \bar{B}) = B \cup A = A \cup B$ ✓

(2) ~~$A\bar{B} =$~~ 不成立. ✗

(3) $(AB)(A\bar{B}) = AB\bar{B} = \emptyset$ ✓

(4) $BC = B(A - \bar{C}) = AB \cdot B(A - AC) = B \cdot A\bar{C} = \emptyset$ ✓

(5) $A \cup B = B$ ✓ (B ⊃ A)

(6) $AB = B\bar{A} \cdot B = B \cdot \bar{A} = A$ ✓

(7) $\bar{B} = \Omega - B$, $\bar{A} = \Omega - A$ (A ⊃ B) ✓

(8) $\overline{A \cup B} C = \bar{A}\bar{B}C \neq \bar{A}\bar{B}\bar{C}$ ✗

P32. 6

$P(A \cup B) = P(A) + P(B) - P(AB) = 0.625$

$P(\bar{A}B) = P(B - AB) = P(B) - P(AB) = 0.375$

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

$= 0.875 = 1 - P(AB)$

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

$\therefore = P(B\bar{A}) + P(A\bar{B}) = P(A) + P(B) - 2P(AB) = B\bar{A} \cup A\bar{B} = A \triangle B$

$= 0.5$.

P33. 9

(1) $\because S=36,\quad n=4 \quad \therefore P(A)=\frac{1}{9}$

(2) $S=216,\quad n=25 \quad \therefore P(A)=\frac{25}{216}$

P33. 10

(1) 共 n^k，$P(A)=\frac{C_n^k \cdot k!}{n^k}$

(2) $P(B)=\frac{(n-1)^{k-r}\cdot C_k^r}{n^k}$

(3) $P(C)=\sum_{r=1}^{n-k}\frac{C_k^r\cdot(n-1)^{k-r}}{n^k}$