P35. 26

$A_i = \{$甲进，乙进，丙进$\}$ ∴ $P(A_1)=\frac{1}{2}$, $P(A_2)=\frac{3}{10}$ $P(A_3)=\frac{4}{10}$

(1) $P(A_1 \cup A_2 \cup A_3) = 1-\prod[1-P(A_i)] = 1-(\frac{1}{2}\times\frac{3}{10}\times\frac{4}{10}) = \frac{47}{50}$

(2) $P(A_1A_2\bar{A}_3 \cup A_1\bar{A}_2A_3 \cup \bar{A}_1A_2A_3) = P(A_1A_2\bar{A}_3)+P(A_1\bar{A}_2A_3)+P(\bar{A}_1A_2A_3)$

$= \frac{11}{25}$ $= P(A_1)P(A_2)P(\bar{A}_3)$ ---

(3)·(1) $P(A_1\bar{A}_2\bar{A}_3 \cup \bar{A}_1A_2\bar{A}_3 \cup \bar{A}_1\bar{A}_2A_3) = \frac{29}{100}$

P35. 27

$A = \{$甲成功扫描$\}$, $B = \{$乙成功扫描$\}$, $C = \{$成功$\}$.

∴ $P(A)=0.7$ $P(B)=0.8$ ~~$P(A\bar{B})=P($~~

$P(C|\bar{A}B) = P(C|A\bar{B}) = 0.5$, $P(C|AB)=0.8$ $P(C|\bar{A}\bar{B})=0$

∴ $P(C) = P(C|\bar{A}B)P(\bar{A}B)+P(C|A\bar{B})P(A\bar{B})+P(C|AB)P(AB)$

$= 0.638$

P63. 5

$X = 7, 9, 13, 18$

X	7	9	13	18
P	$\frac{1}{20}$	$\frac{3}{20}$	$\frac{6}{20}$	$\frac{10}{20}$

$P(X=7) = \frac{C_1^1}{C_6^3} = \frac{1}{20}$. $P(X=9) = \frac{C_3^2}{C_6^3} = \frac{3}{20}$

$P(X=13) = \frac{C_4^2}{C_6^3} = \frac{6}{20}$ $P(X=18) = \frac{C_5^2}{C_6^3} = \frac{10}{20}$

∴ $F(X) = \begin{cases} 0 & X<7 \\ \frac{1}{20} & 7\le X<9 \\ \frac{4}{20} & 9\le X<13 \\ \frac{10}{20} & 13\le X<18 \\ 1 & 18\le X \end{cases}$

$P(X=7) = F(7)-F(7-0) = \frac{1}{20}$

$P(2<X<7) = F(7)-P(7)-F(2) = 0$

$P(7\le X<13) = F(13)+P(7)-F(7)$

$= \frac{4}{20}$

$F(13)+F(13-0)$

P63. 9

(1) $P(X=0)=a$ $P(X=1)=\frac{9}{3}$ $P(X=2)=\frac{9}{5}$

$\therefore \sum_{X=0}^{2} P(X)=1 \Rightarrow a=\frac{15}{23}$

(2) $P(0\le X<2)=P(X=0)+P(X=1)=\frac{20}{23}$

P64. 10

$X=1,2,3,4,5,6,7$,

$P(X=k)=\frac{1}{7}$ $k\in\{1,2,\cdots,7\}$