1.(1) C (2) ABCD (3) B

$$0.07 - 0.012$$

7. (1)

$P(A) = 0.92 \quad P(B) = 0.93 \qquad \therefore P(B\bar{A}) = 0.068 \quad P(\bar{A}\bar{B}) = 0.012$

$P(B|\bar{A}) = 0.85$

$\therefore \dfrac{P(B\bar{A})}{P(\bar{A})} = 0.85 \qquad \therefore P = 1 - P(\bar{A}\bar{B}) = 1 - 0.012 = 0.988$

(2)

$P(A|\bar{B}) = \dfrac{P(A\bar{B})}{P(\bar{B})} = \dfrac{0.058}{0.07} \approx 0.829$

8.

$P(A) = 0.3 \quad P(\bar{A}) = 0.7$

$P(B) = 0.4 \quad P(\bar{B}) = 0.6$

$P(A\bar{B}) = 0.1 \quad P(AB) = 0.2$

$P(\bar{A}\bar{B}) = 0.5 \quad P(\bar{A}B) = 0.2$

$\therefore P(A\cup B) = P(A) + P(B) - P(AB)$
$= 0.3 + 0.4 - 0.2$
$= 0.5$

$\therefore P(\bar{A}\cup B) = 0.8$

(1)

$P(B|A\cup B) = \dfrac{P(B\cap(A\cup B))}{P(A\cup B)} = \dfrac{0.4}{0.5} = 0.8$

(2)

$P(A|\bar{A}\cup\bar{B}) = \dfrac{P(A\cap(\bar{A}\cup\bar{B}))}{P(\bar{A}\cup\bar{B})} = \dfrac{P(A\bar{B})}{P(\bar{A}\cup\bar{B})} = \dfrac{0.1}{0.8}$

$= 0.125$