

① a)  $N(5, 5)$

b)  $P(B < A) = P(B - A < 0) = P\left(\frac{B - A - 5}{5} < \frac{-5}{5}\right) =$

$\Phi(-1) = 1 - \Phi(1) = 1 - 0.8413 = 0.1587$

c)  $P(\text{NOT CARE}) = P(A < 2) = \Phi\left(\frac{2}{5}\right) = \underbrace{0.7486}_p$

$X \sim \text{BIN}(30, p)$

$P(X \geq 25) = P\left(\frac{X - 30 \cdot p}{\sqrt{30 \cdot p \cdot (1-p)}} \geq \frac{25 - 30 \cdot p}{\sqrt{30 \cdot p \cdot (1-p)}}\right) =$

$= 1 - \Phi\left(\frac{25 - 30 \cdot p}{\sqrt{30 \cdot p \cdot (1-p)}}\right) = 1 - \Phi(1.07) = 1 - 0.8577 = 0.1423$

② a)  $(1 - e^{-\frac{60}{65}}) \cdot (1 - e^{-\frac{60}{70}}) = 0.3469$

b)  $f(x, y) = \frac{1}{70} \cdot e^{-\frac{1}{70} \cdot x} \cdot \frac{1}{65} \cdot e^{-\frac{1}{65} \cdot y}$

c)  $\frac{\frac{1}{65}}{\frac{1}{65} + \frac{1}{70}} = 0.5185$