

Facit

1. $P(A|B) = 2P(B|A)$
2. (a) Nej, (b) Nej
3. (a) $X \sim \text{Bin}(100, 0.025)$, (b) 0.241, (c) 39
5. $X \sim \text{Hyp}(1000, 3000, 24000)$
7. $F_X(x) = x^3 \quad 0 \leq x \leq 1$
11. $L=30050$
12. $2e^{-1} - 4e^{-3} = 0.537$
14. $p_X(9) = 1/12$, $F_X(5) = 7/12$, $P(4 \leq X \leq 8) = 7/12$, $P(X \geq 8) = 1/4$
15. $E[X] = 39/16$
16. 0.86
17. (a) $f_X(x) = e^{-x}, x > 0$, $f_Y(y) = ye^{-y}, y > 0$, (b) $(e^{-2} - 3e^{-4}) / (1 - 5e^{-4}) = 0.088$, (c) Nej
18. (a) $X \in \{3, 4, 5\}$. $p_X(3) = 0.28$, $p_X(4) = 0.37$, $p_X(5) = 0.35$, (b) $E[X] = 4.07$