Stack 5

1 b) $\mu = 0{,}3$

$P(X \geq 3) = 1 - P(X \leq 2)$ $\quad F_X(x) = 1 - (1-\mu)^x$

$= 1 - 1 + (1-\mu)^2$

$= (1 - 0{,}3)^2$

$= 0{,}490$

1 g)

$P(W > 20) = P(\bar{X} \leq 5) = 0{,}416$

2 a)

$\lambda = 5,5 \qquad t = 1$

$f_X(x) = \frac{(\lambda t)^x}{x!} e^{-\lambda t}$

$P(X = 6) = \frac{5,5^6}{6!} e^{-5,5} = 0,1571$

2 d)

$\lambda = 1 \qquad t = 2$

$P(X = 5) = \frac{2^5}{5!} e^{-2} = 0,0361$

$P(X > 5) = 1 - P(X \leq 5)$

$= 1 - 0,9834$

2 f)

$P(X \geq 1) = 1 - P(0) \qquad f_X(x) = \frac{\mu^x}{x!} e^{-\mu}$

$1 - \frac{\mu^0}{1} e^{-\mu} = 1 - e^{\mu}$

4 c)

$\mu = 3,2 \qquad \sigma = 2,3$

$\phi\left(\frac{x-\mu}{\sigma}\right)$

$P(X > 2,6) = 1 - P(X \leq 2,6)$

$= 1 - \phi\left(\frac{2,6 - 3,2}{2,3}\right)$

$= 1 - \phi(-0,2608)$

$= 1 - 0,0047$