

**Solution for exercise 4.5.2 in Pitman**

Question a)

$$P(X \leq x) = \sum_{i=0}^x \binom{3}{i} \frac{1}{8}$$

Question b)

$$P(X \leq x) = 1 - P(X > x) = 1 - P(X \geq x+1) = 1 - \frac{1}{2^x}$$