

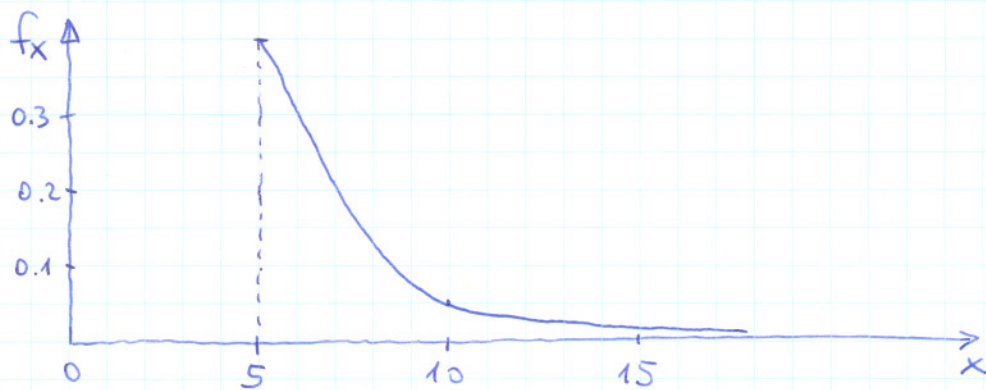
1) PARETOVA PORAZDELITEV

$$b=5 \quad a=2$$

$$F_x(x) = 1 - \left(\frac{b}{x}\right)^a \quad x \geq b$$

$$f_x(x) = -(-a) b^a x^{-a-1} = \frac{a b^a}{x^{a+1}} \quad x \geq b$$

$$P[X \leq 2b] = F_x(2b) = 1 - \left(\frac{b}{2b}\right)^a = 1 - \left(\frac{1}{2}\right)^a = 1 - \left(\frac{1}{2}\right)^2 = \frac{3}{4}$$



$$f_x(5) = \frac{2 \cdot 5^2}{5^3} = \frac{2}{5} = 0.4$$

$$f_x(10) = \frac{2 \cdot 5^2}{10^3} = 0.05$$