

11. Gyakorlat

A centrális határeloszlás tétele, statisztikai alapfogalmak - Eredmények

1. $\approx 0,0104$

2. $\approx 0,0735$

3. 138

4. $\approx 0,9938$

5. $\approx 0,8461$

6. $2 \sum_{i=1}^{12} X_i - 7$

7. a) $\approx 0,1357$ b) $\approx 4,33$

8. a)

$$F^*(t) = \begin{cases} 0 & \text{ha } t \leq 40, \\ \frac{1}{6}, & \text{ha } 40 < t \leq 46, \\ \frac{1}{2}, & \text{ha } 46 < t \leq 56, \\ \frac{2}{3}, & \text{ha } 56 < t \leq 70, \\ \frac{5}{6}, & \text{ha } 70 < t \leq 90, \\ 1, & \text{ha } 90 < t. \end{cases}$$

b) $\bar{x} = 58$ kg, $s \approx 17,24$ kg, $s^* = 18,89$ kg

9. a) Rendezett minta: 150, 157, 163, 165, 165, 165, 168, 172, 174, 180, 186, 191

b)

$$F^*(t) = \begin{cases} 0 & \text{ha } t \leq 150, \\ \frac{1}{12}, & \text{ha } 150 < t \leq 157, \\ \frac{1}{6}, & \text{ha } 157 < t \leq 163, \\ \frac{1}{4}, & \text{ha } 163 < t \leq 165, \\ \frac{1}{2}, & \text{ha } 165 < t \leq 168, \\ \frac{7}{12}, & \text{ha } 168 < t \leq 172, \\ \frac{2}{3}, & \text{ha } 172 < t \leq 174, \\ \frac{3}{4}, & \text{ha } 174 < t \leq 180, \\ \frac{5}{6}, & \text{ha } 180 < t \leq 186, \\ \frac{11}{12}, & \text{ha } 186 < t \leq 191, \\ 1, & \text{ha } 191 < t. \end{cases}$$

$F^*(180) = \frac{3}{4}$

c) $\bar{x} = \frac{509}{3} \approx 169,67$ cm, $s^* = 11,73$ cm

10. a) $\bar{x} = 4$ óra

b) $s = 3,46$ óra, $s^* = 3,65$ óra

c)

$$F^*(t) = \begin{cases} 0 & \text{ha } t \leq 0, \\ \frac{1}{5}, & \text{ha } 0 < t \leq 1, \\ \frac{3}{10}, & \text{ha } 1 < t \leq 2, \\ \frac{1}{2}, & \text{ha } 2 < t \leq 3, \\ \frac{3}{5}, & \text{ha } 3 < t \leq 7, \\ \frac{4}{5}, & \text{ha } 7 < t \leq 8, \\ \frac{9}{10}, & \text{ha } 8 < t \leq 10, \\ 1, & \text{ha } 10 < t. \end{cases}$$