

習 2)

$$\hat{p} = \frac{105}{250} = 0.42$$

$$\begin{aligned} 1) \quad \hat{p} \pm z_{\frac{\alpha}{2}} \sqrt{\frac{\hat{p}(1-\hat{p})}{n}} &= 0.42 \pm 1.645 \sqrt{\frac{0.42(0.58)}{250}} \\ 1-\alpha &= 0.95 \\ \alpha &= 0.05 \\ \frac{\alpha}{2} &= 0.025 \\ &= 0.42 \pm 0.05 \\ &= (0.37, 0.47) \# \end{aligned}$$

$$\begin{aligned} 2) \quad 1-\alpha &= 0.95 & e &= 0.03 & n &= \left(\frac{z_{\frac{\alpha}{2}}}{e} \right)^2 \times p(1-p) \\ \frac{\alpha}{2} &= 0.025 & p &= 0.3 & &= 896.37 \text{ 取 } 897 \\ & & & & &= \left(\frac{1.96}{0.03} \right)^2 \times 0.21(0.3) \end{aligned}$$

$$\begin{aligned} 3) \quad \hat{p} &= 0.5 \\ n &= \left(\frac{z_{\frac{\alpha}{2}}}{e} \right)^2 \times \hat{p}(1-\hat{p}) \\ &= 1068 \# \end{aligned}$$