

机率 B0729016

1. (a) $z = 1.875$

$P < \alpha \Rightarrow$ 不發生

\Rightarrow 不成立

(b)

$$z = \frac{73-70}{\sqrt{25}} = 1.667$$

$P = 0.478 < \alpha \Rightarrow$ 不發生

\Rightarrow 不成立

2. (a) $E(\hat{p}) = E\left(\frac{x}{n}\right) = \frac{1}{n} E(x) = \frac{1}{n} \cdot n \cdot p = p$

(b) $\text{Var}(\hat{p}) = \text{Var}\left(\frac{x}{n}\right)$

$$= \frac{1}{n} \cdot p \cdot q = \frac{1}{100} p q$$

$$\frac{1}{10} \sqrt{p q} \neq$$

(c) (50.4% ~ 69.6%)

(d) (51.9% ~ 68.1%)

3. (a) 77.9%

(b) 11%

(c) $\sigma = \sqrt{\frac{1}{100} \cdot 0.6 \cdot 0.4} = 0.049$

$$0.049 \times 1.96 = 0.09604$$

$$0.6 \pm 0.09604 = 0.696 \approx \text{約 } 70\%$$

(d) 接受