

$$= 2.33 \pm 1.96 \cdot \frac{5.2}{10} = 2.33 \pm 1.00$$

$$(3) \quad \underset{U}{24.38} - \underset{L}{22.22} = \underset{\rightarrow}{2.16}$$

6.7 從例 6.1 得知  $\bar{x} = 16.33$   $S = 4.29$   $G$  未知

$$(1) \quad 1 - \alpha = 0.95 \quad -\alpha = -0.05 \quad \alpha = 0.05 \quad \frac{\alpha}{2} = 0.025$$

解  $z_{\frac{\alpha}{2}} = z_{0.025} = 1.96$  (查表)

$$\bar{x} \pm z_{\frac{\alpha}{2}} \frac{S}{\sqrt{n}} = 16.33 \pm 1.96 \frac{4.29}{\sqrt{36}} = 16.33 \pm 1.96 \frac{4.29}{6}$$

$$= 16.33 \pm 1.40 \quad \text{即 } (14.93, 17.73) \text{ 為 } 95\% \text{ 信賴區間}$$

$$(2) \quad 1 - \alpha = 0.9 \quad -\alpha = -0.1 \quad \alpha = 0.1 \quad \frac{\alpha}{2} = 0.05$$

$$z_{\frac{\alpha}{2}} = z_{0.05} = 1.645 \text{ (查表得)}$$

$$\bar{x} \pm z_{\frac{\alpha}{2}} \frac{S}{\sqrt{n}} = 16.33 \pm 1.645 \frac{4.29}{\sqrt{36}} = 16.33 \pm 1.18$$

$$\text{即 } (15.15, 17.51) \text{ 為 } 90\% \text{ 信賴區間}$$

在此，意謂著我們有 95% 信心，消費者更換手機之平均時間介於 (14.93

$$\left( \frac{100}{100} \right) = (1.96 \times 7)^2 = 188.24 \approx 189$$

6.19  $\sigma$  未知 以  $S$  替代

$S = 0.05$     $e = 0.01$     $1 - \alpha = 0.95$     $\alpha = 0.05$     $z_{\frac{\alpha}{2}} = z_{0.025} = 1.96$

$$n = \left( \frac{z_{\frac{\alpha}{2}} \cdot S}{e} \right)^2 = \left( \frac{1.96 \cdot 0.05}{0.01} \right)^2 = (1.96 \times 5)^2 = 96.04 \approx 97$$

$$97 - 35 = 62$$

$$A = 62 \text{ 袋}$$