6.7

☆ 大樣本，母體σ未知 $\rightarrow (\bar{x}-z_{\frac{\alpha}{2}}\frac{s}{\sqrt{n}}, \bar{x}+z_{\frac{\alpha}{2}}\frac{s}{\sqrt{n}})$

樣本平均數=16.33　樣本標準差=4.29

① 95%信賴區間

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

$$\bar{x}\pm z_{\frac{\alpha}{2}}\frac{s}{\sqrt{n}}=16.33\pm z_{0.025}\frac{4.29}{\sqrt{36}}$$

$$=16.33\pm 1.96\frac{4.29}{6}$$

$$=16.33\pm 1.4014$$

$\rightarrow (14.9286, 17.7314)$

② 90%信賴區間

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

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

$$=16.33\pm 1.176175$$

$\rightarrow (15.153825, 17.506175)$

Week3
P.221
6.19

母体σ未知

$1-\alpha=0.95$

$z_{\frac{\alpha}{2}}=z_{0.025}=1.96$

$e=0.01$

$s=0.05$

$$n=\left(\frac{z_{\frac{\alpha}{2}}s}{e}\right)^2$$

$$=\left(\frac{1.96\times0.05}{0.01}\right)^2$$

$$=\left(\frac{0.098}{0.01}\right)^2$$

$$=96.04\fallingdotseq97$$

已觀察335筏

需再增 $97-35=62$ 筏