母體比例 $p_1$ 與 $p_2$ 未知，故以 $\hat{p}_1$ 與 $\hat{p}_2$ 估計之，所以 $(p_1-p_2)$ 之 $100(1-\alpha)\%$ 近似

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2.

(1) $e=\frac{\alpha}{\sqrt{n}}\times Z\frac{\alpha}{n}$

$=\alpha=3e=0.5$ $1-\alpha=0.95$

$n=(\frac{3}{0.5})^2\times 1.96^2=138.3\fallingdotseq 139$

(2) $\alpha=\alpha\tilde{2}e=0.03$ $1-\alpha=0.9$

$n=(\frac{0.2}{0.03})^2\times 1.645^2=120.47$

$\fallingdotseq 121$

(3) $\alpha=0.05$ $e=0.02$ $1-\alpha=0.98$

$n(\frac{0.05}{0.02})^2\times 2.326^2\fallingdotseq 33.8\fallingdotseq 34$

6. $1250\pm Z_{0.025}\sqrt{\frac{140^2}{120}}$

$1250\pm 25.05$

$=(1275.05, 1224.95)$

10. (1) $M_1-M_2=\bar{x}-\bar{y}=85-78=7$

(2) $7\pm 1.645\sqrt{\frac{154}{50}+\frac{146}{100}}$

$=7\pm 1.645\times 2.59$

$=7\pm 4.26\Rightarrow(11.26, 2.74)$