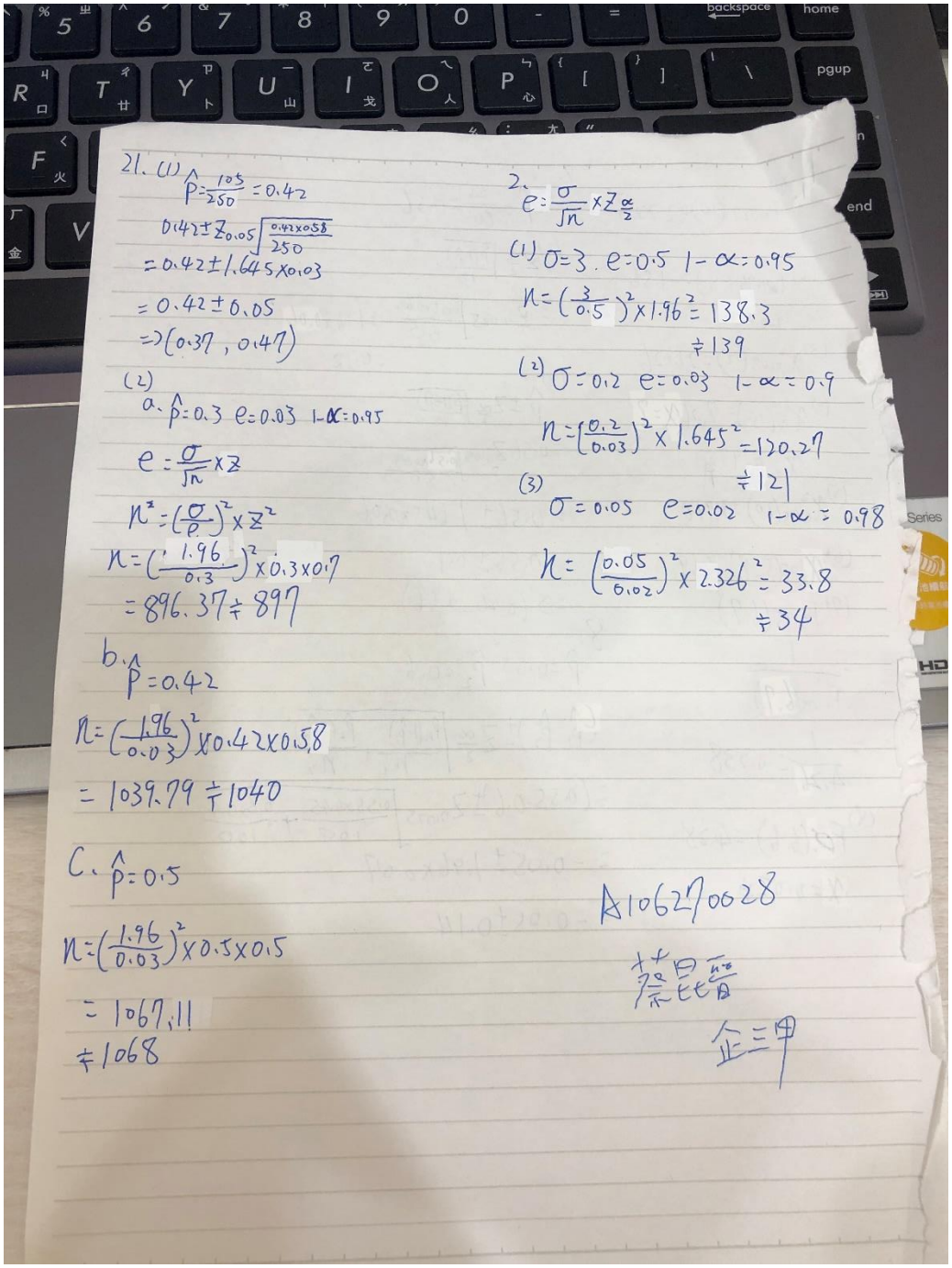

21. (1) $\hat{p}=\frac{105}{250}=0.42$

$0.42\pm z_{0.05}\sqrt{\frac{0.42\times0.58}{250}}$

$=0.42\pm1.645\times0.03$

$=0.42\pm0.05$

$\Rightarrow(0.37, 0.47)$

(2)

a. $\hat{p}=0.3$ $e=0.03$ $1-\alpha=0.95$

$e=\frac{\sigma}{\sqrt{n}}\times z$

$n^2=(\frac{\sigma}{e})^2\times z^2$

$n=(\frac{1.96}{0.3})^2\times0.3\times0.7$

$=896.37\div897$

b. $\hat{p}=0.42$

$n=(\frac{1.96}{0.03})^2\times0.42\times0.58$

$=1039.79\div1040$

C. $\hat{p}=0.5$

$n=(\frac{1.96}{0.03})^2\times0.5\times0.5$

$=1067.11$

$\div1068$

2. $e=\frac{\sigma}{\sqrt{n}}\times z_{\frac{\alpha}{2}}$

(1) $\sigma=3$ $e=0.5$ $1-\alpha=0.95$

$n=(\frac{3}{0.5})^2\times1.96^2=138.3$

$\div139$

(2) $\sigma=0.2$ $e=0.03$ $1-\alpha=0.9$

$n=(\frac{0.2}{0.03})^2\times1.645^2=120.27$

$\div121$

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

$n=(\frac{0.05}{0.02})^2\times2.326^2=33.8$

$\div34$

A10627/0028

禁昆霖

企三甲

1. (1) $t_{0.025}(10) = 2.228$

(2) $t_{0.95}(8) = -1.86$

$\|$

$1-0.05$

(3) $\chi^2_{0.05}(12) = 21.026$

(4) $\chi^2_{\chi}(15) = 7.26$ $\chi = ?$

$\chi = 0.95$ #

(5) $\chi^2_{0.95}(10) = 3.940$

(6) $F_{0.05}(5,8) = 3.69$

(7) $F_{0.95}(6,7)$

$= \frac{1}{F_{0.05}(7,6)}$

$= \frac{1}{4.21} = 0.238$

(8) $F_{\alpha}(6,6) = 4.28$

$\alpha = 0.05$ #

7. (1) $\hat{P} = \frac{45}{80} = 0.56$

(2) $Z_{\frac{\alpha}{2}}\sqrt{\frac{\hat{P}(1-\hat{P})}{n}}$

$= Z_{0.025}\sqrt{\frac{0.56\times0.44}{80}} = 1.96\times0.06$

$= 0.12$

(3) $\hat{P} \pm Z_{\frac{\alpha}{2}}\sqrt{\frac{\hat{P}(1-\hat{P})}{n}}$

$= 0.56 Z_{0.05}\sqrt{\frac{0.56\times0.44}{80}}$

$= 0.56 \pm 1.645\times0.06$

$= 0.56 \pm 0.1$

$\Rightarrow (0.46, 0.66)$

8. $\hat{P} = 0.55$ $\hat{P}_2 = 0.6$

$(\hat{P}_1 - \hat{P}_2) \pm Z_{\frac{\alpha}{2}}\sqrt{\frac{\hat{P}_1(1-\hat{P}_1)}{n_1} + \frac{\hat{P}_2(1-\hat{P}_2)}{n_2}}$

$= (0.55-0.6) \pm Z_{0.025}\sqrt{\frac{0.55\times0.45}{100} + \frac{0.6\times0.4}{100}}$

$= -0.05 \pm 1.96\times0.07$

$= -0.05 \pm 0.14$