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

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

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

(4) $\chi^2_{\alpha}(15)$　$\alpha = 0.95$

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

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

(7) $F_{0.95}(6,7)$　　　$\frac{1}{F_{0.05}(7,6)}$

(8) $F_{\alpha}(6,6) = 4.28$　　$\alpha = 0.05$

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

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

$= Z_{0.05} \sqrt{\frac{0.56 \times 0.44}{80}}$

$= 1.76 \times 0.06 = 0.12$

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

$= 0.56 \pm Z_{0.05} \sqrt{\frac{0.56 \times 0.44}{80}}$

$= 0.56 + 1.645 \times 0.06$

$= 0.56 \pm 0.1$

$= (0.66, 0.46)$

. $\hat{p}_1\ \frac{55}{100} = 0.55$　　$\hat{p}_2\ \frac{60}{100} = 0.06$

$P_1 - P_2 \pm Z_{\frac{\alpha}{2}} \sqrt{\frac{\hat{p}_1(1-\hat{p}_1)}{n_1} + \frac{\hat{p}_2(1-\hat{p}_2)}{n_2}}$

$(0.55, 0.6) \pm Z_{0.025} \sqrt{\frac{0.55 \times 0.45}{100} + \frac{0.6 \times 0.9}{100}}$

$= -0.05 \pm 1.96 \times 0.07$

$= -0.05 \pm 0.14$

$= (-0.09, -0.19)$

2, $\hat{p}\ \frac{105}{250} = 0.42$

(1) $0.42 \pm Z_{0.05} \sqrt{\frac{0.42 \times 0.58}{250}}$

$= 0.42 \pm 1.645 \times 0.03$

$= 0.42 \pm 0.05 \quad = (0.37, 0.47)$

(2) $\hat{p} = 0.3$　$e = 0.03$　$1-\alpha = 0.95$

$e = \frac{\alpha}{\sqrt{n}} \quad Z \Rightarrow n = \left(\frac{\alpha}{e}\right)^2 \cdot \hat{p}(1-\hat{p})$

$n = \left(\frac{0.3 \times 0.7}{0.3}\right)^2 \times 0.3 \times 0.7 = 896.37 \doteqdot 897$

令 0.42

$n = \left(\frac{1.96}{0.03}\right)^2 \times 0.42 \times 0.58 = 1039.79$

$\doteqdot 1040$

$\hat{p} = 0.5$

$n = \left(\frac{1.96}{0.03}\right)^2 \times 0.5 \times 0.5 = 1067.11$

$\doteqdot 1068$