

- (i) 問甲,乙兩廠牌行駛距離的離散程度何者較大?為什麼? (5分)
- (ii) 在 $\alpha=0.05$ 下檢定甲,乙兩廠牌行駛距離的標準差是否相等? (5分)
- (iii) 若已知兩牌的標準差相等,求 $\mu_1 - \mu_2$ 的 95% 信賴區間。 (5分)

七. 設 X 是 POISSON 分配且已知 $P(X=1) = P(X=2)$, 求

- (i) $P(X=4) = ?$ (5分)
- (ii) $E(X^2) = ?$ (5分)

參考數值: Z 值的 α 值的單尾

$z_{0.025} = 1.960$	$t_{0.025}(35) = 2.031$	$t_{0.025}(63) = 2.00$
$z_{0.05} = 1.645$	$t_{0.05}(35) = 1.690$	$t_{0.05}(63) = 1.665$
$z_{0.1} = 1.282$	$t_{0.10}(35) = 1.306$	$t_{0.10}(63) = 1.30$
$z_{0.125} = 1.150$	$t_{0.025}(98) = 1.98$	
$F_{0.05}(35, 63) = 1.60$		

$\chi^2_{0.05}(2) = 5.99$ $\chi^2_{0.05}(3) = 7.81$, $\chi^2_{0.05}(4) = 9.49$, $\chi^2_{0.05}(5) = 11.07$

$\chi^2_{0.05}(6) = 12.59$

若 $Z \sim N(0,1)$ 則 $P(|Z| < 1) \approx 0.68$, $P(|Z| < 2) \approx 0.95$