

$$H_0: \mu_1 = \mu_2 = \mu_3 = \mu_4$$

$$H_1: H_0 \text{ 不成立, } \mu_i \text{ 不全等}$$

⇒ 抽樣分配

$$\alpha = 0.01$$

$$\bar{y}_1 = \frac{349}{4} = 87.25 \quad \bar{y}_3 = \frac{510}{7} = 72.86$$

$$\bar{y}_2 = \frac{391}{4} = 97.75 \quad \bar{y}_4 = \frac{419}{6} = 69.83$$

	平方和	自由度	均方和	F值
因子	SSB	k-1	$\frac{SSB}{k-1}$ ①	$\frac{①}{②}$
誤差	SST-SSB	n-k	$\frac{SST-SSB}{n-k}$ ②	
總和	SST			

9-7

$$\bar{y}_1 = \frac{300}{2} = 150 \quad \bar{y}_3 = \frac{570}{3} = 190$$

$$\bar{y}_2 = \frac{390}{3} = 130 \quad \bar{y}_4 = \frac{540}{4} = 135$$

$$\bar{y} = \frac{300 + 390 + 570 + 540}{10} = \frac{1800}{10} = 180$$

平方和	自由度	
25800	3	8600
4600	6	$\frac{4600}{6}$
30400	9	
F值		$\frac{8600}{\frac{4600}{6}} = 11.2$

$$120^2 + 180^2 + 140^2 + 120^2 + 130^2 + 190^2 + 170^2 + 210^2 + 240^2 + 300^2 = 354400$$

$$SST = 354400 - \frac{(1800)^2}{10} = 30400$$

$$SSR = \frac{(300)^2}{2} + \frac{(390)^2}{3} + \frac{(570)^2}{3} + \frac{(540)^2}{4} - \frac{(1800)^2}{10} = 25800$$

$$SSE = 30400 - 25800 = 4600$$

$$SST = 25800 + 4600 = 30400$$