$$\frac{\overline{x}_1 - \overline{x}_2}{\sqrt{s_w^2\left[(1/n_1)+(1/n_2)\right]}}$$

Scenario 2

$$t_{23} = \frac{3.03-2.88}{\sqrt{0.254\left[(1/16)+(1/23)\right]}} = 0.9143$$

tcdf(0.9143, 57) = 0.8178

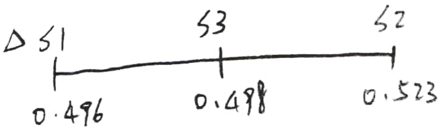
0.8178 * 2 = 1.6356

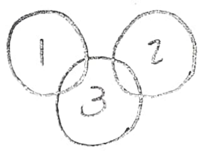
1.6356 > 0.033 ⇒ two means are comparable

$$t_{13} = \frac{2.63-2.88}{\sqrt{0.254\left[(1/21)+(1/23)\right]}} = -1.6435$$

tcdf(-1.6435, 57) = 0.0529

0.0529 * 2 = 0.1058 > 0.033 ⇒ two means are comparable





⇒ 3介於1、2中間，
但1、2不相同

Scenario 1

$$t = \frac{(\overline{x}_1-\overline{x}_2)-(\mu_1-\mu_2)}{\sqrt{s_p^2\left[(1/n_1)+(1/n_2)\right]}}, \quad s_p^2 = \frac{(n_1-1)s_1^2+(n_2-1)s_2^2}{n_1+n_2-2}$$

Group 2.3 : $s_p^2 = \dfrac{(16-1)(0.523)^2+(23-1)(0.498)^2}{16+23-2} = 0.2584$

$$t = \frac{(3.03-2.88)-0}{\sqrt{0.2584\left[(1/16)+(1/23)\right]}} = 0.9064$$

Group 1.3 : $s_p^2 = \dfrac{(21-1)(0.496)^2+(16-1)(0.523)^2}{21+16-2} = 0.2578$

$$t = \frac{(3.03-2.63)-0}{\sqrt{0.2578\left[(1/16)+(1/21)\right]}} = 2.3740$$