

$$tc = \frac{(\bar{x}_1 - \bar{x}_2) - (\mu_1 - \mu_2)_0}{\sqrt{\frac{s_p^2}{n_1} + \frac{s_p^2}{n_2}}} = \frac{(22.41 - 27.75) - 0}{\sqrt{\frac{3.6}{40} + \frac{3.6}{24}}} = -10.9$$