

Formulae Sheet

$$\bar{x} = \frac{\sum_{i=1}^n x_i}{n}$$

$$s^2 = \frac{\sum_{i=1}^n (x_i - \bar{x})^2}{n-1}$$

point estimate	critical value	standard error
p	z^*	$\sqrt{\frac{p(1-p)}{n}}$
$p_1 - p_2$	z^*	$\sqrt{\frac{p_1(1-p_1)}{n_1} + \frac{p_2(1-p_2)}{n_2}}$
$\bar{x}$	t_{df}^*	$\sqrt{\frac{s^2}{n}}$
$\bar{x}_1 - \bar{x}_2$	t_{df}^*	$\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}$

$$p_{pooled} = \frac{p_1 n_1 + p_2 n_2}{n_1 + n_2}$$

$$y_i = \beta_0 + \beta_1 x_{1i} + \beta_2 x_{2i} + \epsilon_i$$

$$R = \frac{1}{n-1} \sum_{i=1}^n \frac{x_i - \bar{x}}{s_x} \frac{y_i - \bar{y}}{s_y}$$

$$b_1 = \frac{s_y}{s_x} R$$

$$b_0 = \bar{y} - b_1 \bar{x}$$