Формулы для решения расчетных заданий по эконометрике

$$\sigma_x = \sqrt{\overline{x^2} - \bar{x}^2}$$

$$r_{xy} = \frac{\overline{x \cdot y} - \bar{x} \cdot \bar{y}}{\sigma_x \cdot \sigma_y}$$

$$\hat{y} = a + bx, \qquad b = \frac{\overline{x \cdot y} - \bar{x} \cdot \bar{y}}{\sigma_x^2}, \qquad a = \bar{y} - b \cdot \bar{x}$$

$$r_{xy} = b \cdot \frac{\sigma_x}{\sigma_y}$$

$$R^2 = \left(r_{xy}\right)^2$$

$$\rho_{xy} = \sqrt{1 - \frac{\sigma_{\text{ост}}^2}{\sigma_{\text{общ}}^2}}$$

$$t_y = \beta_1 t_{x_1} + \beta_2 t_{x_2} + \cdots + \beta_p t_{x_p}$$

$$R_{yx_1x_2} = \sqrt{\beta_1 r_{yx_1} + \beta_2 r_{yx_2}}$$

$$t_x = \frac{x - \bar{x}}{\sigma_x}$$

$$F_{\text{факт}} = \frac{R^2}{1 - R^2} \cdot \frac{n - m - 1}{m}$$

$$t_{\text{факт}} = \frac{b}{m_b}$$