Zad. 9

$$f(x, y) = e^x \sin y, \quad \text{pochodna po } x \text{ nic nie zmienia, parzyste potęgi} \\ f(0,0) = 0 \quad \text{po } y \text{ zmieniają tylko znak.}$$

$$f(x, y) = f(0,0) + \frac{\partial f}{\partial x}(0,0)x + \frac{\partial f}{\partial y}(0,0)y + \frac{1}{2}\frac{\partial^2 f}{\partial x^2}(0,0)x^2 +$$

$$+ \frac{\partial^2 f}{\partial x \partial y}(0,0)xy + \frac{1}{2}\frac{\partial^2 f}{\partial y^2}(0,0)y^2 + \frac{1}{6}\frac{\partial^3 f}{\partial x^3}(0,0)x^3 +$$

$$+ \frac{1}{2}\frac{\partial^3 f}{\partial x^2 \partial y}(0,0)x^2 y + \frac{1}{2}\frac{\partial^3 f}{\partial x \partial y^2}(0,0)xy^2 + \frac{1}{6}\frac{\partial^3 f}{\partial y^3}(0,0)y^3 + R_r(x,y).$$

$$y + xy + \frac{1}{2}x^2 y - \frac{1}{6}y^3 + R_r(x,y)$$