Aula 13 - 15.4/1a

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- Formula de Taylor:

$$f(x,y) + \frac{\partial f}{\partial x}(x_0,y_0)\cdot(x-x_0) + \frac{\partial f}{\partial y}(x_0,y_0)(y-y_0)$$

- $\frac{\partial f}{\partial x}(e^{x+5y}) = e^{x+5y}\cdot\frac{\partial}{\partial x}(x+5y) = e^{x+5y}\cdot 1$

- $\frac{\partial f}{\partial y}(e^{x+5y}) = e^{x+5y}\cdot\frac{\partial}{\partial y}(x+5y) = e^{x+5y}\cdot 5$

$\frac{\partial f}{\partial x}(0,0) = 1$; $\frac{\partial f}{\partial y}(0,0) = 5$; $f(0,0) = 1$

- Substituindo na fórmula temos:

$$f(x,y) = f(0,0) + \frac{\partial f}{\partial x}(0,0)\cdot(x-0) + \frac{\partial f}{\partial y}(0,0)(y-0) = 1 + x + 5y$$