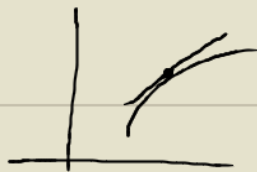


$$1. f(x, y) = 7x - 3y + 1$$

$$f_x(x, y) = \textcircled{7}$$

$$f_y(x, y) = \textcircled{-3}$$



$$2. f(x, y) = 8x^2 y^3 - 7y + 4x^5$$

$$f_x = \partial \cdot 8x^1 y^3 + \partial 0x^4 \\ = \textcircled{16xy^3 + 20x^4}$$

$$f_y = 8x^2 \cdot 3y^2 - 7 \\ = \textcircled{24x^2 y^2 - 7}$$

$$3. z = e^{2x-5y}$$

$$\frac{\partial z}{\partial x} = e^{2x-5y} \cdot \frac{\partial}{\partial x} (2x-5y) \\ = \textcircled{2e^{2x-5y}}$$

$$\frac{\partial z}{\partial y} = e^{2x-5y} \cdot \frac{\partial}{\partial y} (2x-5y) \\ = \textcircled{-5e^{2x-5y}}$$

$$4. z = \ln(5x^2 - 3y^2)$$

$$\frac{\partial z}{\partial x} = \frac{1}{5x^2 - 3y^2} \cdot \frac{\partial}{\partial x} (5x^2 - 3y^2) \\ = \textcircled{\frac{10x}{5x^2 - 3y^2}}$$

$$\frac{\partial z}{\partial y} = \frac{1}{5x^2 - 3y^2} \cdot \frac{\partial}{\partial y} (5x^2 - 3y^2) \\ = \textcircled{\frac{-6y}{5x^2 - 3y^2}}$$