TZD P. 8.1

8.1) Find the two partial derivatives of

a) \( f_a = x^2 y^3 + x^4 y^2 \)

b) \( f_b = (x+y)^3 \)

c) \( f_c = \sin x \cos y \)

\[ \frac{\partial f_a}{\partial x} = 2xy^3 + 4x^3y^2 \]
\[ \frac{\partial f_a}{\partial y} = 3x^2y^2 + 2x^4y \]

b) \[ \frac{\partial f_b}{\partial x} = 3(x+y)^2 \]
\[ \frac{\partial f_b}{\partial y} = 3(x+y)^2 \]

c) \[ \frac{\partial f_c}{\partial x} = \cos x \cos y \]
\[ \frac{\partial f_c}{\partial y} = -\sin x \sin y \]