

Additional Review Questions

For each of the functions $f(x_1, x_2)$ below, derive the partial derivative with respect to x_1 (i.e. $\frac{\partial f(x_1, x_2)}{\partial x_1}$); and derive the partial derivative with respect to x_2 (i.e. $\frac{\partial f(x_1, x_2)}{\partial x_2}$)

1. $f(x_1, x_2) = 5x_1^2x_2^2 + 3x_1x_2 + 2x_1^2 + 3x_2 + x_1 - 12$

2. $f(x_1, x_2) = (x_1^2 + x_2^2)^{\frac{1}{2}}$

3. $f(x_1, x_2) = \frac{(x_1+1)^2}{(x_2-1)}$

4. $f(x_1, x_2) = 2x_1^3$