

Partial Derivatives

1. Find the first partial derivatives of the function.

$$f(x, y) = x^4 + 5xy^9$$

2. Find the first partial derivatives of the function.

$$f(x, t) = t^6 e^{-x}$$

3. Find the first partial derivatives of the function.

$$z = x \cdot \sin(x \cdot y)$$

4. Find the first partial derivatives of the function.

$$f(x, y) = \frac{x}{y}$$

5. Find the first partial derivatives of the function.

$$w = \frac{e^v}{u+v^4}$$

6. Find the first partial derivatives of the function.

$$f(x, y, z) = x^9 y z^2 + 2yz$$

7. Find all second partial derivatives.

$$f(x, y) = x^4 y - 2x^3 y^2$$

8. Find all second partial derivatives.

$$T = e^{-8r} \cos(\theta)$$

9. Find the first partial derivatives of the function.

$$f(x, t) = \sqrt{x} \cdot \ln(t)$$