

Derivatives

Partial Derivatives

1. $\frac{\partial}{\partial x}(xy)$

2. $\frac{\partial}{\partial y}\left(\frac{x}{y}\right)$

3. $\frac{\partial}{\partial x}(\ln(x^2 + y^2))$

4. $\frac{\partial}{\partial x}(\sqrt{x^2 + y^2})$

5. $\frac{\partial}{\partial x}(xe^{xy})$

6. $\frac{\partial}{\partial y}(xe^y)$

7. $\frac{\partial}{\partial x}(\ln(xy))$

8. $\frac{\partial}{\partial x}(e^{xy})$

9. $\frac{\partial}{\partial x}(xe^y)$

10. $\frac{\partial}{\partial x}(13x^5 - 7x^2 + 8y^3 + 2x^2y^2)$

Answers**Derivatives****Partial Derivatives**

1. y

2. $-\frac{x}{y^2}$

3. $\frac{2x}{x^2 + y^2}$

4. $\frac{x}{\sqrt{x^2 + y^2}}$

5. $e^{xy} + e^{xy}xy$

6. xe^y

7. $\frac{1}{x}$

8. $e^{xy}y$

9. e^y

10. $65x^4 + 4xy^2 - 14x$