14.2: Finding Partial Derivative

Calculus III

College of the Atlantic

Determine the derivatives of the following functions:

1. 2

2. x^2

3. e^x

4. 2^x

5. $\ln(x)$

6. $\frac{1}{x^2}$

7. $\sin(x)$

8. $2\sin(x)$

9. $\sin(x^2)$

10. $\sin(x^2) + 2$

11. $x^2 \sin(x)$

12. $(\sin(x))^2$

13. e^{x^2}

14. $\frac{\sin(x)}{x^2}$

Consider the following three functions:

- $f(x, y) = x^2 - 4\sin(y)$
- $g(x, y) = 3xy^2$
- $h(x, y) = 3x - 4y + 16$

Calculate the following:

1. $\frac{\partial f}{\partial x}$

2. $\frac{\partial f}{\partial y}$

3. $\frac{\partial g}{\partial x}$

4. $\frac{\partial g}{\partial t}$

5. $\frac{\partial h}{\partial x}$

6. $\frac{\partial h}{\partial t}$

7. $g_x(2, 3)$

8. $g(2, 3)$

9. $h_y(3, 4)$

10. $h_y(3, 5)$

11. $h_y(4, 5)$