

Differentiation equations

KSU Economics “Exercises”

NOV 1, 2022

1. $\sqrt{1 - X^2}$

2. $(2 - X)^4$

3. $\frac{1}{2x+1}$

4. $e^{\frac{x}{5}}$

5. $y = \sqrt{x^2 - 3x + 18}$

6. $f(x, y) = x^4 + 3x^2y^4 - 45y + 90$

7. $(x^{\frac{1}{2}} + x^{-\frac{1}{2}})(4x^4 - 3\sqrt{xy})$

$$8. \ln (x^4 + 4)$$

$$9. y = \frac{x^2 + \sqrt{x} - 3}{x}$$

$$10. \quad f(x) = \frac{\sqrt[4]{x}}{x^{-1} \sqrt{x^{-5}}}$$

$$11. \quad z = 2x^2y^4 + 3x^4 + 5y - 7$$

$$12. \quad f(x) = \frac{10x^2 + 3x^4 + 5}{x^2 - 5x}$$

2. System of equations

$$2x + 4y = 2$$

$$x + 2y$$

$$2x + y = 8$$

$$x - y = 2$$

$$x_1 + x_2 + x_3 = 0$$

$$8x_1 + 4x_2 + 6x_3 = 8$$

$$15x_1 + 3x_2 + 5x_3 = 0$$