

Millersville University
Mathematics Department
MATH 161, *Calculus I*, Derivatives

Examples

Find the derivatives of the following functions.

1. $f(x) = 5x^{-3/5}$

2. $f(x) = \sqrt{x} - \frac{1}{\sqrt{x}}$

3. $f(x) = (x^2 + x + 1)(x^2 + 2)$

4. $f(x) = \sqrt[3]{x} \left(x + \frac{1}{x} \right)$

5. $f(x) = \frac{1}{x^4 + x^2 + 1}$

6. $f(x) = \frac{x^5}{x^3 - 2}$

7. $f(x) = \frac{1}{1 + \frac{1}{x}}$

8. $f(x) = \frac{x}{(x^2 + 2)(x^2 + 3)}$

9. $f(x) = x(x^2 + 2x + 1)(x^3 + 2)$

10. $f(x) = \left(\frac{x^2 + 1}{x^2 + 2} \right) (x^2 + 3)$

11. $f(x) = \frac{7}{7x^3 - 4x^2 + 3x + 5}$