

Basic Derivatives

Directions: Find the derivative of each function.

1. $f(x) = 3x^5$

2. $f(x) = 3x^4 - 12x^2 + 3$

3. $g(x) = x^{\frac{2}{3}} - x^{-\frac{1}{3}}$

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

5. $f(x) = \sqrt[4]{x} - \sqrt[3]{x}$

6. $h(x) = 3x - 3 + 3x^{-3}$

7. $f(x) = x^\pi$

8. $f(x) = e^2$

9. $g(x) = x^{10} + x^2 - 3x^{\frac{2}{3}} + 4x^{-5}$

10. $h(x) = 5x^{-6} - 3x^4 - x + \sqrt{x} - 5x^{-\frac{4}{5}}$