

Worksheet: Differentiation Rules

Math 102 Section 102

Find the derivatives of the following functions

1. $f(x) = (x - 8)(x^2 + 1)$.

2. $f(x) = \frac{x^2 - 9}{x^2 + 9}$.

3. $f(x) = 5(x^2 - 3x)^{10}$.

4. $f(x) = \frac{x}{\sqrt{x^2 + d^2}}$.

Antiderivatives.

1. If $f'(x) = mx + b$, find $f(x)$.

2. If $g'(t) = 5(t^3 + t^2)^4(3t^2 + 2t)$, find $g(t)$.