## MEMORIAL UNIVERSITY OF NEWFOUNDLAND

## DEPARTMENT OF MATHEMATICS AND STATISTICS

Section 2.4

## Math 1000 Worksheet

 $Fall\ 2025$ 

For practice only. Not to be submitted.

- 1. Use the Product Rule or the Quotient Rule to find the derivative of each function.
  - (a)  $y = (x^3 1)(x^4 + 3x^2 x)$
  - (b) f(x) = (x+1)(2x+1)(3x+1)
  - (c)  $g(x) = \frac{ax^2 + b}{cx^2 d}$  where a, b, c and d are constants
  - (d)  $f(x) = \frac{1}{x^2 + \frac{4}{x+4}}$
- 2. Prove the Quotient Rule.