## MEMORIAL UNIVERSITY OF NEWFOUNDLAND DEPARTMENT OF MATHEMATICS AND STATISTICS

Section 2.4

Math 1000 Worksheet

 $Fall \ 2024$ 

## 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.