MEMORIAL UNIVERSITY OF NEWFOUNDLAND DEPARTMENT OF MATHEMATICS AND STATISTICS

Section 3.6

Math 1000 Worksheet

 $Fall \ 2024$

For practice only. Not to be submitted.

- 1. Differentiate each of the following.
 - (a) $y = \sinh(x^3)$ (b) $y = \sinh^3(x)$ (c) $f(x) = \frac{\cosh(x)}{\cos(x)}$ (d) $y = x^{\cosh(x)}$
- 2. Prove that $\frac{d}{dx}[\sinh(x)] = \cosh(x)$.
- 3. Prove that $\sinh(x+y) = \sinh(x)\cosh(y) + \cosh(x)\sinh(y)$.