

MEMORIAL UNIVERSITY OF NEWFOUNDLAND
DEPARTMENT OF MATHEMATICS AND STATISTICS

SECTION 3.6

Math 1000 Worksheet

FALL 2023

For practice only. Not to be submitted.

1. Differentiate each of the following.

(a) $y = \sinh(x^3)$

(b) $y = \sinh^3(x)$

(c) $f(x) = \frac{\operatorname{sech}(x)}{\sec(x)}$

(d) $y = x^{\tanh(x)}$

2. Prove that $\frac{d}{dx}[\sinh(x)] = \cosh(x)$.

3. Prove that $\sinh(x + y) = \sinh(x) \cosh(y) + \cosh(x) \sinh(y)$.