Math 2A Worksheet: Introduction

Write your names and Student ID numbers at the top of the page

1. Express $H(x) = \sqrt[4]{\dfrac{\sin x}{1 + \sin x}}$ in the form $f \circ g \circ h$.

2. If $f(x) = \dfrac{1}{x}$ and $h \neq 0$, compute and simplify the difference quotient

$$\dfrac{f(x+h) - f(x)}{h}$$

3. Find the domain of each function:

   (a) $g(x) = \dfrac{4}{e^x}$

   (b) $f(x) = \sqrt{1 + e^x}$

   (c) $h(x) = \sqrt{1 - 3^x}$

4. Sketch the graph of the curve $y = 4e^{x-2} - 1$.