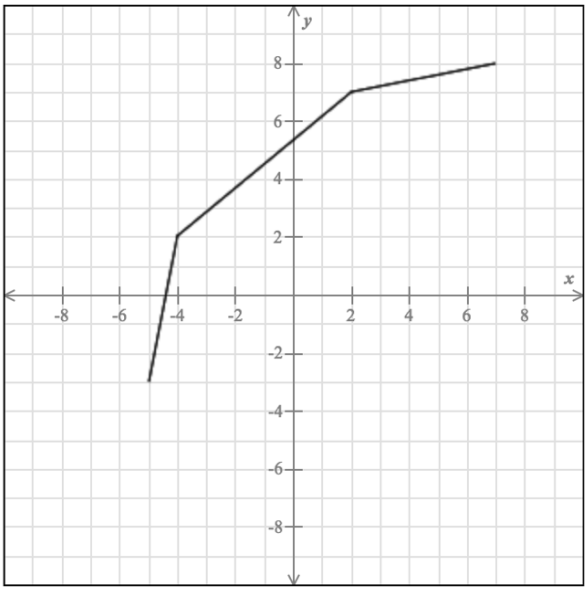
Math 2A Worksheet: Introduction

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

1. Below is the graph of a function f. Graph f^{-1}, the inverse of f, on the same axes.



2. Find the domain of each function:

$$g(x) = \frac{4}{e^x} \qquad f(x) = \sqrt{1 + e^x} \qquad h(x) = \sqrt{1 - 3^x}$$

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

4. Let $h(x) = \dfrac{3x}{x-5}$. Find h^{-1} and state the domain and range of h^{-1} in interval notation.

5. Find the exact value of each expression.

   (a) $\sin^{-1}\left(\dfrac{-\sqrt{3}}{2}\right)$

   (b) $\cos^{-1}\left(\cos\left[\dfrac{-\pi}{6}\right]\right)$

   (c) $\log_5 100 + \log_5 25 - 2\log_5 2$

   (d) $e^{2\ln 6}$

   (e) $\sin\left(2\cos^{-1}(4x)\right)$
   (*Hint: use a trig identity!*)