| Practice Quiz # 2  | Name: |
|--------------------|-------|
| Date: 10/10/2021   |       |
| Math 1A: Fall 2021 |       |

## Problem 1

- 1. Rewrite  $a^x$  such that the base is in terms of e. (i.e. write it as  $e^{f(x)}$  for some function f).
- 2. Differentiate this expression to show that the derivative of  $a^x$  is  $\ln a \cdot a^x$ .

## Problem 2

- 1. Fill in the blank  $tan(tan^{-1}(x)) = \cdot$
- 2. Find the derivative of  $tan^{-1}(x)$ .
- 3. Using the chain rule, find the derivative of  $\tan^{-1}(xe^x)$ .