

# MA 109: October 31

Logarithms: Evaluating Logarithms and Natural Log

## Start of Class

### Instructor Information

Name:

Email:

Office Hours:

## Warm-up Questions

## Notes

**The inverse is the thing that cancels.**

If  $f(x) = x + 3$ , what is  $f^{-1}(x)$ ?

If  $f(x) = 3x$ , what is  $f^{-1}(x)$ ?

If  $f(x) = x^3$ , what is  $f^{-1}(x)$ ?

If  $f(x) = 3^x$ , what is  $f^{-1}(x)$ ?

If  $f(x) = \log_3(x)$ , what is  $f^{-1}(x)$ ?

**Example:** What is  $\log_4(4^{18})$ ?

**Example:** What is  $3^{\log_3(25)}$ ?

**Example:** What is  $\log_6(36^5)$ ?

**Example:** What is  $e^{\ln(17)}$ ?

## End of Class

Write a summary of what you learned today:

What questions do you have about the material from today?

What do you need to do between now and the next class meeting?