

Assignment 0

Kate Guiberson

January 19, 2026

Here is where I would disclose anything that the graders and/or professor should know about, such as outside resources used or classmates who I worked with.

1. By the chain rule from calculus, we have:

$$\frac{d}{dx} \sin(x^2 + 6x) = \cos(x^2 + 6x) \frac{d}{dx}(x^2 + 6x) \quad (1)$$

$$= \cos(x^2 + 6x)(2x + 6) \quad (2)$$

2. DeMorgan's law says

$$\neg(A \cap B) \equiv \neg A \cup \neg B \quad (3)$$

- 3.

A	B	$A \wedge B$
T	T	T
T	F	F
F	T	F
F	F	F

4. \mathbb{R} denotes the real numbers. \mathbb{N} denotes the natural numbers. It is of course the case that $\mathbb{N} \subseteq \mathbb{R}$.