

# Probability & Statistics for EECS:

## Homework #01

Due on Feb 19, 2023 at 23:59

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## Problem 1

1.  $f(n)$

2.  $f(n)$

3.  $f(n)$

4.

$$f(n)$$

5.

$$f(n)$$

6.

$$f(n) \tag{1}$$

## Problem 2

1.

$$\begin{aligned} n^2 + n + 1 &\leq n^2 + n^2 + n^2 \\ &= 3n^2 \\ &\leq c \cdot 2n^3 \end{aligned}$$

2.

$$\begin{aligned} n^2 + n + 1 &\leq n^2 + n^2 + n^2 \\ &= 3n^2 \\ &\leq c \cdot 2n^3 \end{aligned} \tag{2}$$

3.

$$n^2 + n + 1 \leq n^2 + n^2 + n^2 \tag{3}$$

$$= 3n^2 \tag{4}$$

$$\leq c \cdot 2n^3 \tag{5}$$