

# Midterm 2 Version 1 Review

July 17, 2020

1. a) 1100100

b)  $-\sum_{i=0}^{n-1} 3^i$

## Notes:

- Balanced Ternary
  - is a way of representing numbers
  - balanced ternary is in base 3, and has values 1,0 or -1

$$\sum_{i=0}^{n-1} d_i \cdot 3^i \text{ where } d_i \in \{0, 1, -1\} \quad (1)$$

c) i. True (since  $n^2 + 10n + 2 \geq cn$ )

## Notes:

- $g \in \Omega(f) : \exists c, n_0 \in \mathbb{R}^+, \forall n \in \mathbb{N}, n \geq n_0 \Rightarrow g(n) \geq cf(n)$ , where  $f, g : \mathbb{N} \rightarrow \mathbb{R}^{\geq 0}$