Edmund Gunn Jr | eg3573
HW6
Extended Bridge Spring ‘23

Question 3:

5.A
Answer:
$f(n) = 5n^3 + 2n^2 + 3n$
$c_1 g(n) \leq f(n) \leq c_2 g(n)$
Where $c_1 = 5\, c_2 = 10\, n \geq 1$
$5n^3 + 2n^2 + 3n = \Theta(n^3)$

5.B
Answer:
$f(n) = \sqrt{7n^2 + 2n - 8}$
$c_1 g(n) \leq f(n) \leq c_2 g(n)$
Where $c_1 = 1\, c_2 = 4\, n \geq 1$
$\sqrt{7n^2 + 2n - 8} = \Theta(n)$