

1. Write a detailed structured proof that  $5n^4 - 3n^2 + 1$  is  $\mathcal{O}(6n^5 - 4n^3 + 2n)$ .

2. Write a detailed structured proof that  $6n^5 - 4n^3 + 2n$  is not  $\mathcal{O}(5n^4 - 3n^2 + 1)$ .