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

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