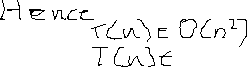
1. Using above definitions, prove that T(n) = 6n2+ 4n+ 3∈Θ(n2) (30points)



1. Is O(n4) a tight upper bound for T(n)? If not, what is the tight upper bound for T(n)? (10 points)



* 1. O(n4) is a loose upper bound for T(n) because as shown above O(n2) is the tight upper bound for T(n). Also, the function of n4 grows quicker than n2.



1. Is Ω(n)a tight lower bound for T(n)? If not, what is the tight lower bound for T(n)? (10 points)



* 1. Ω(n) is a loose lower bound than the lower bound found above, Ω(n2). The reason for this is because linear functions grow less quickly than quadratic functions.

