

③ Finding Bynomials that are upper & lower bounds on your curve from #2. From this specify a big-O & big-Omega & what big-theta is.

Here,

~~The~~ From quadratic equation, we get the bounds:

↳ Upper bound (Big-O) —

In this highest order term is $\Theta(n^2)$ from this we get $T(n) \in \Theta(n^2)$

↳ (Big-Omega) (lower bound):

In this the function is clearly bounded by a quadratic term of n .

So, from that we can get

$$T(n) \in \Omega(n^2)$$

↳ Big-Theta (Tight bound):

Here both Big-O and Big-Omega are n^2

So, we can conclude as

$$T(n) \in \Theta(n^2)$$