Find the time complexity of the below functions in **Θ** form. Write NA if the function does not

apply to any case.

a) T (n) = 3T (n/2) + n

b) T (n) = 64T (n/8) − n^2(log n)

c) T (n) = 2nT (n/2) + n^n

d) T (n) = 3T (n/3) + n/2

e) T (n) = 7T (n/3) + n^2

Solution

1. **Θ(n)**
2. **NA as function f(n) is not positive**
3. **NA as a is not a constant**
4. **Θ(nlogn)**
5. **Θ(n^2)**