Assignment 2 Solution Part1:

Q. 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

Answers:

a) T (n) = Θ(n^log 3) (Case 1)

b) NA

c) NA

d) T (n) = Θ(n log n) (Case 2)

e) T (n) = Θ(n^2) (Case 3)