

The time complexity of given functions using the master theorem are as follows:

a) $T(n) = 3T(n/2) + n$
 $\Theta(n)$

b) $T(n) = 64T(n/8) - n^2(\log n)$
 $\Theta(n)$

c) $T(n) = 2nT(n/2) + n^n$
 $\Theta(n^n \lg n)$

d) $T(n) = 3T(n/3) + n/2$
 $\Theta(n)$

e) $T(n) = 7T(n/3) + n^2$
 $\Theta(n^2 \lg n)$