a:
$T(n) = 9T(n/3) + n^2$ so $a = 9$, $b = 3$ and $f(n) = n^2$
Is $n^2 = \Theta(n^{\log_3(9)})$?
Is $n^2 = \Theta(n^2)$? True.
$\therefore T(n) = \Theta(n^2 \log n)$

b:
$T(n) = 4T(n/2) + 100n$ so $a = 4$, $b = 2$ and $f(n) = 100n$
Is $100n = O(n^{\log_2(4)-\epsilon})$?
Is $100n = O(n^{2-\epsilon})$? True.
$\therefore T(n) = \Theta(n^2)$

c:
$T(n) = 2^n T(n/2) + n^3$ so $a = 2^n$, $b = 2$ and $f(n) = n^3$
a is not constant $\therefore$ Master Theorem cannot be applied.

d:
$T(n) = 3T(n/3) + cn$ so $a = 3$, $b = 3$ and $f(n) = cn$
Is $cn = \Theta(n^{\log_3(3)})$?
Is $cn = \Theta(n)$? True.
$\therefore T(n) = \Theta(n \log n)$

e:
$T(n) = 0.99T(n/7) + 1/(n^2)$ so $a = 0.99$, $b = 7$ and $f(n) = 1/(n^2) = n^{-2}$
Is $n^{-2} = \Omega(n^{\log_7(0.99)+\epsilon})$?
Is $n^{-2} \approx \Omega(n^{-0.005+\epsilon})$? False.

Is $n^{-2} = O(n^{\log_7(0.99)-\epsilon})$? True.
$\therefore T(n) = \Theta(n^{log_7(0.99)})$