Q2 $T(n) = 3T\left(\frac{n}{\sqrt{3}}\right) + n^3 \lg n$

$a = 3$
$b = \sqrt{3}$ $\quad f(n) = n^3 \lg n$

$\because \; n^3 \lg n = \Omega\left(n^{\log_{\sqrt{3}} 3 + \epsilon}\right), \quad \epsilon > 0$

$af\left(\frac{n}{b}\right) = 3 \cdot \frac{n^3}{\sqrt{3}^3} \cdot \lg\left(\frac{n}{\sqrt{3}}\right) \leq c\, n^3 \lg n \quad (c < 1)$

c代 0.9 時可成立

$\therefore$ master theorem case 3

$\Rightarrow T(n) = \Theta(f(n)) = \Theta(n^3 \lg n)$