$T(n) = 36\,T(n/6) + 2n$

$a = 36 \quad b = 6 \quad f(n) = 2n$

$f(n) = O(n^{2-\varepsilon})$

we have $\varepsilon = 1$

$n^{\log_b(a)} = n^{\log_6(36)} = n^2$

Case 1 is where $\log_b^a > k \Rightarrow 2 > 1$

So $T(n) = \Theta(n^2)$

$T(n) = 5\,T(n/3) + 17\,n^{1.2}$

$a = 5 \quad b = 3 \quad f(n) = 17\,n^{1.2}$

$f(n) = O(n^{1,46-\varepsilon})$

we have $\varepsilon = 0,26$

$n^{\log_b(a)} = n^{\log_3(5)} = n^{1.46}$

Case 1 is where $1,46 > 1,2$

So $T(n) = \Theta(n^{1.46})$

$T(n) = 12\,T(n/2) + n^2 \log(n)$

$a = 12 \quad b = 2 \quad f(n) = n^2 \log(n)$

$f(n) = O(n^{3.58-\varepsilon})$

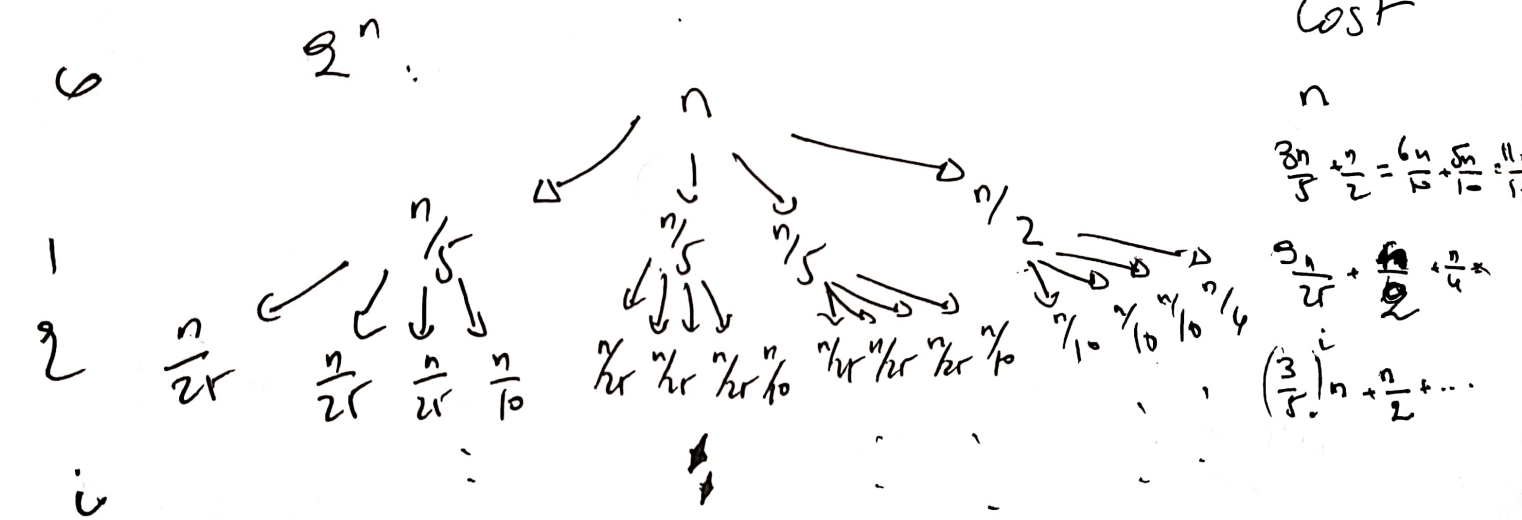
we have $\varepsilon = 1,58$

$n^{\log_b(a)} = n^{\log_2^{12}} = n^{3.58}$

Case 1 again is where $3,58 > 2$

and we have $T(n) = \Theta(n^{3.58})$

$$T(n) = 3T(n/5) + T(n/2) + 2^n$$



Since n is the greatest

At the first level, I'd say that

$$\Theta(n) = (2^n)$$