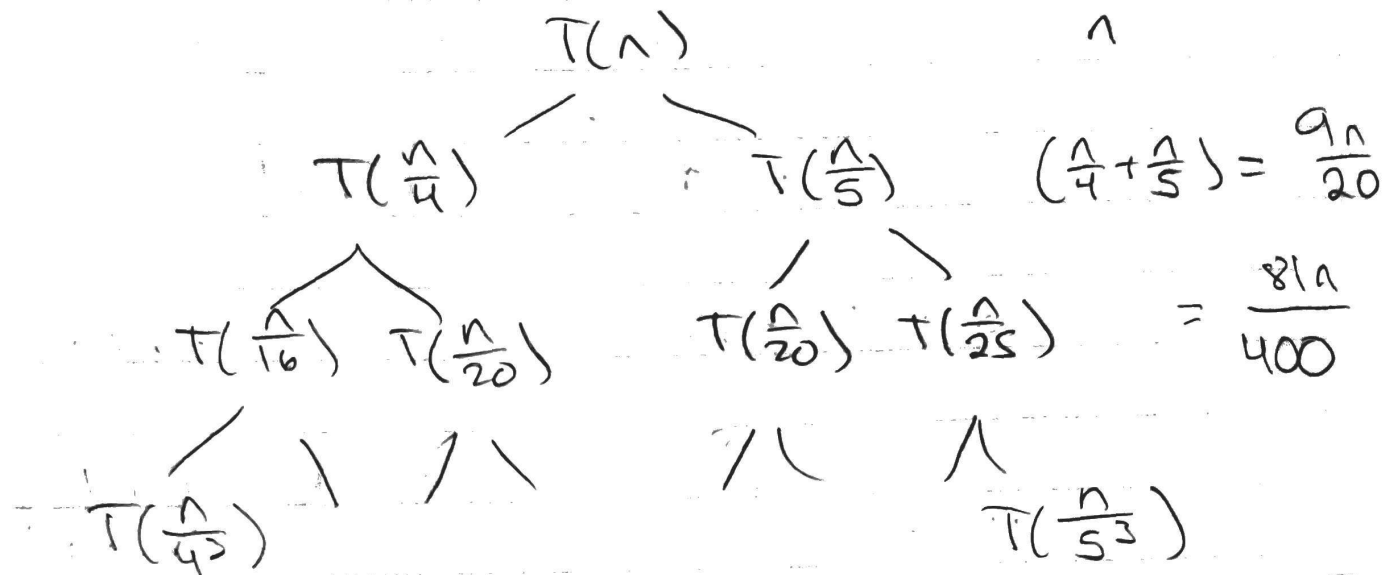


B. $T(n) = T\left(\frac{n}{4}\right) + T\left(\frac{n}{5}\right) + O(n)$



$$\frac{n}{4^k} = 1 \Rightarrow k = \log_4 n$$

$$T(n) = n + \left(\frac{n}{4}\right) + \left(\frac{n}{5}\right) + \dots + \left(\frac{n}{5^k}\right)$$

$$(1 + 2 + 4 + \dots + 2^k)$$

$$2^k - 1$$

$$T(n) = n(2^k - 1) \approx n2^k$$

$$T(n) = O(n2^{\log_4 n})$$