$$T(n) = a \cdot T\left(\frac{n}{b}\right) + f(n)$$

$$f(n) \text{ vs } n^{\log_b a}$$

1. n^2 vs $n^{\log_2 3} \rightarrow \underline{n^2}$

2. n^2 vs $n^{\log_2 7} \rightarrow \underline{n^{\lg 7}}$

3. n^2 vs $n^{\log 4} \rightarrow \underline{n^2 \log n}$

4. $n \log n$ vs $n^{\log_4 3} \rightarrow \underline{n \log n}$

5. $\log n$ vs $n^{\log 4} \rightarrow n^2 \rightarrow \underline{n^2}$

6. $T(n) = T(n-1) + n \quad$ does not apply $\rightarrow \underline{n^2}$

7. $n \log n$ vs $n^{\log 4} \rightarrow \underline{n^2 \log n}$

0. $n^2 \log n$ vs $n^{\log_2 5} \rightarrow \underline{n^{\log 5}}$

9. $\frac{n}{\log n}$ vs $n^{\log_3 3} \quad \frac{n}{\log n} \quad$ does not apply

10. c vs $n^{\log_4 2} \rightarrow \underline{n^{1/2}}$

11. $\log n$ vs $n^{\log 4^1} \rightarrow \underline{\log^2 n}$

12. n^2 vs $n^{\log 2} + n \log 4 \rightarrow \underline{\frac{n^2}{T^{1/2}}}$

13. $\log n$ vs $n^{\log_4 2} \rightarrow \underline{n}$

14. $n \log n$ vs $n^{\log_3 3} \rightarrow \underline{n \log^2 n}$

15. Does not apply

11. $n^{1/2}$ vs $n^{\log_4 2}$ → $\underline{n^{1/2}}$

12. $n^{0.51}$ vs $n^{\log_4 2}$ → $\underline{n^{0.51}}$

18. $n!$ vs $n^{\log_4 10}$ → $\underline{n!}$

19. n vs $n^{\log_2 3}$ → $\underline{n^{\log 3}}$

20. cn vs $n^{\log_2 4}$ → $\underline{n^2}$

21. $n/2$ vs $n^{\log_3 3}$ → $\underline{n \log n}$

22. $n/\log n$ vs $n^{\log_2 4}$ → $\underline{n^2}$

23. $n^{\log_3(7)}$ vs n^2 → $\underline{n^3}$

24. $n^{\log_3 8}$ vs 2^n → $\underline{2^n}$

25. n vs $n^{\log_4 4}$ → $\underline{n^2}$