

$$f_1(n) = 3^n \Rightarrow 3^5 = 243$$

$$f_2(n) = n \log_2 n \Rightarrow 5 \log_2 5 = 3.49$$

$$f_3(n) = \log_2 n \Rightarrow \log_2 5 = 1.16$$

$$f_4(n) = n \Rightarrow 5 = 5$$

$$f_5(n) = 5^{\log_2 n} \Rightarrow 5^{2.3219} = 41.9699$$

$$f_6(n) = n^2 \Rightarrow 5^2 = 25$$

$$f_7(n) = \sqrt{n} \Rightarrow \sqrt{5} = 2.2360$$

$$f_8(n) = 2^{2n} \Rightarrow 2^{10} = 1024$$

there for

$$\log_2 n < \sqrt{n} < n \log_2 n < n < n^2 < 5^{\log_2 n} < 3^n < 2^{2n}$$

$$f_3(n) < f_7(n) < f_2(n) < f_4(n) < f_6(n) < f_5(n) < f_1(n) < f_8(n)$$