

$$f(n) \text{ is } o(g(n)) \text{ iff } \lim_{n \rightarrow \infty} \frac{f(n)}{g(n)} = 0$$

$$f(n) \text{ is } O(g(n)) \text{ iff } \exists c > 0, n_0 > 0 \exists \\ 0 \leq f(n) \leq c g(n) \quad \forall n \geq n_0$$

$$f(n) \text{ is } \Theta(g(n)) \text{ iff } f(n) \text{ is } O(g(n)) \text{ AND} \\ f(n) \text{ is } \Omega(g(n)).$$

$$f(n) \text{ is } \Omega(g(n)) \text{ iff } \exists c > 0, n_0 > 0 \exists \\ 0 \leq c g(n) \leq f(n) \quad \forall n \geq n_0$$

$$f(n) \text{ is } \omega(g(n)) \text{ iff } \lim_{n \rightarrow \infty} \frac{f(n)}{g(n)} = \infty$$