

R-4.8:

$2^{10}$ ,  $2^{\log n}$ ,  $3n + 100 \log n$ ,  $n \log n$ ,  $4n \log n + 2n$ ,  
 $n^2 + 10n$ ,  $n^3$ ,  $2^n$

$2^{10}$  is a constant.

$2^{\log n} = n$  since  $\log n$  means  $\log_2(n) \Rightarrow O(n)$

$3n + 100 \log n$  is  $O(n)$  but it is larger than  $n$

$n \log n$  is  $O(n \log n)$  and it is larger than  $n$

$4n \log n + 2n$  is  $O(n \log n)$  but it is ~~four~~ larger than  $n \log n$  4 times

$n^2 + 10n$  is  $O(n^2)$

$n^3$  is  $O(n^3)$

$2^n$  is  $O(2^n) \rightarrow$  exponential.