

1- Please select the dominant terms of the time complexities below and specify the final complexity with bigO notation.

Expression	Dominant Term	$O(\dots)$
$5 + 0.001n^3 + 0.02n$		
$500n + 100n^{1.5} + 50n\log_{10}n$		
$0.3n + 5n^{1.5} + 2.5n^{1.75}$		
$n^2\log_2n + n(\log_2n)^2$		
$n\log_3n + n\log_2n$		
$3\log_8n + \log_2\log_2\log_2n$		
$100n + 0.01n^2$		
$0.01n + 100n^2$		

2- Please calculate the time complexity of the **breath-first search** algorithm.

3- Please calculate the time complexity of the **depth-first search** algorithm.