1.

1 $O(n)$
2 $O(n)$
3 $O(1)$
4 $O(n^5)$
5 $O(1)$

2 outer loop = $O(n)$
inner loop = $O(n)$
$\Rightarrow$ complexity = $O(n^2)$.

3 1. $\boxed{O(n)}$, this is a basic for loop, with an iterator incrementing with one until n.

2. $\boxed{O(n^2)}$, a basic nested loop (j++) in another loop (i++). The extra code does not effect the time complexity when n -> ∞

3 outer loop increments by i *= 3; so log n
inner loop is $O(n)$

$O(n \log n)$