PROBLEM 3 (10 points possible)

For each of the following expressions, select the order of growth class that best describes it from the following list: $O(1), O(\log(n)), O(n), O(n\log(n)), O(n^c)$ of $O(c^n)$. Assume c is some constant.

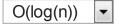
1. 0.0000001n + 1000000



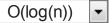
2. $0.0001n^2 + 20000n - 90000$



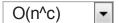
3. $20n + 900 \log(n) + 100000$



4. $(\log(n))^2 + 5n^7$



5. $n^{200} - 2n^{30}$



6. $30n^2 + n \log(n)$

O(n log(n)) ▼

7. $n \log(n) - 3000n$

O(n log(n)) ▼

8. 3



9.
$$5^n + n^5 + n + 5$$

10.
$$n \log(n) + n^2 + n + \log n + 1 + 2^n$$