**Step One: Simplifying Expressions**

1. O(n + 10) 🡪 O(n)
2. O(100 \* n) 🡪 O(n)
3. O(25) 🡪 O(1)
4. O(n^2 + n^3) 🡪 O(n^3)
5. O(n + n + n + n) 🡪 O(n)
6. O(1000 \* log(n) + n) 🡪 O(n)
7. O(1000 \* n \* log(n) + n) 🡪 O(n)  
   (logarithmic term becomes less significant compared to the linear term)
8. O(2^n + n^2) 🡪 O(2^n)
9. O(5 + 3 + 1) 🡪 O(1)
10. O(n + n^(1/2) + n^2 + n \* log(n)^10) 🡪 O(n^2)

**Step Two: Calculating Time Complexity**

1. Time complexity: O(n)
2. Time complexity: O(n)
3. Time complexity: O(1)
4. Time complexity: O(n)
5. Time complexity: O(n^2)
6. Time complexity: O(n)

**Part Three: Short Answers**

1. True or false: n^2 + n is O(n^2).  
   Answer: True
2. True or false: n^2 \* n is O(n^3).  
   Answer: True
3. True or false: n^2 + n is O(n).  
   Answer: False
4. What’s the time complexity of the .indexOf array method?  
   Answer: O(n)
5. What’s the time complexity of the .includes array method?  
   Answer: O(n)
6. What’s the time complexity of the .forEach array method?  
   Answer: O(n)
7. What’s the time complexity of the .sort array method?  
   Answer: O(n \* log (n))
8. What’s the time complexity of the .unshift array method?  
   Answer: O(n)
9. What’s the time complexity of the .push array method?  
   Answer: O(1)
10. What’s the time complexity of the .splice array method?  
    Answer: O(n)
11. What’s the time complexity of the .pop array method?  
    Answer: O(1)
12. What’s the time complexity of the Object.keys() function?  
    Answer: O(n)
13. What’s the space complexity of the Object.keys() function?  
    Answer: O(n)