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 \* log n)
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. O(n)
2. O(n)
3. O(1)
4. O(n)
5. O(n^2)
6. O(n)

Step Three: Short answer

1. True
2. True
3. False
4. O(n)
5. O(n)
6. O(n)
7. O(n)
8. O(n log n)
9. O(1)
10. O(n) or can be O(1)
11. O(1)
12. O(n)
13. O(n)