Review Questions 02

Topic: Algorithm Analysis

1. An algorithm that takes a certain number of steps to complete any given tasks has a time complexity of _____.

2. The notation $O(n^2)$ means that the algorithm's time (or space) growth rate is proportional to _____.

3. Determine the time complexity of the following expression: $(3 \times n^4 + 2 \times n^3 + 2)/(5 \times n)$.

4. What is the growth rate of the following method?

```
int count(int[] a,

          int c)

{ int i;

  int count = 0;

  for (i = 0; i < a.length; i++)

    if (a[i] == c) count++;

  return count;

}
```