Quiz Submissions - Algorithm Analysis Reading Quiz

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Attempt 1

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Submission View

Your quiz has been submitted successfully.

Question 1 **6 / 6 points**

Order the following functions from slowest-growing to fastest-growing. (This refers to the growth of the function as **n** increases, not the execution time of an algorithm with that order of growth.)

Give the equations time to display properly; D2L is often a bit slow about that.

✓ __2__ $f(N) = lg(N)$
✓ __3__ $f(N) = N$
✓ __4__ $f(N) = N\ \lg(N)$
✓ __6__ $f\left(N\right) = N^3$
✓ __5__ $f\left(N\right) = N^2$
✓ __1__ $f(N) = 1$

Question 2 **2 / 2 points**

The tilde approximation of

$$\frac{n^3}{6} - \frac{n^2}{2} + \frac{n}{3}$$

is:

- n^3
- $\frac{n}{3} - \frac{n^2}{2}$
- ✔ $\frac{n^3}{6}$

Question 3 **2 / 2 points**

The order of growth of

$$\frac{n^3}{6} - \frac{n^2}{2} + \frac{n}{3}$$

is:

- $\frac{n}{3} - \frac{n^2}{2}$
- ✔ n^3
-

$$\frac{n^3}{6}$$

Question 4 **2 / 2 points**

By the authors' definition of a tilde approximation,

$$g(n) \sim f(n)$$

means that

$$\lim_{n \to \infty} \frac{g(n)}{f(n)} = 1$$

.

- ✔ ◯ True
- ◯ False

Attempt Score: 12 / 12 - 100 %

Overall Grade (highest attempt)**:** 12 / 12 - 100 %

Done