1. Introduction and Learning Outcomes — 1 / 1 point

The goal of this assignment is to practice with logarithms that appear frequently in the analysis of algorithms.

Recall that $\log_a n$ is the power to which you need to raise a in order to obtain n.

The main rules for working with logarithms are the following:

1. $\log_a(n^k) = k \log_a n$
2. $\log_a(nm) = \log_a n + \log_a m$
3. $n^{\log_a b} = b^{\log_a n}$
4. $\log_a n \cdot \log_b a = \log_b n$

Is it true that $(\log_5 n)^2 = 2 \log_5 n$?

- ○ Yes
- ◉ No

✓ Correct

2. $\log_2 n \cdot \log_3 2 = \log_3 n$ — 1 / 1 point

- ◉ Yes
- ○ No

✓ Correct

3. $n^{\log_2 n} = n$ — 1 / 1 point

- ○ Yes
- ◉ No

✓ Correct

4. $\log_3(2n) = \log_3 2 \cdot \log_3 n$ — 1 / 1 point

- ○ Yes
- ◉ No

✓ Correct

5. $\log_{10}(n^2) = 2 \log_{10} n$ — 1 / 1 point

- ◉ Yes
- ○ No

✓ Correct

6. $n^{\log_7 3} = 7^{\log_3 n}$ — 1 / 1 point

- ○ Yes
- ◉ No

✓ Correct
$n^{\log_7 3} = 3^{\log_7 n}$