

Logarithms

6 questions

1
point

1.

Introduction and Learning Outcomes

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

point

2.

$$\log_2 n \cdot \log_3 2 = \log_3 n$$

☐ Yes

☐ No

1
point

3.

$$n^{\log_2 n} = n$$

☒ Yes

☐ No

1
point

4.

$$\log_3(2n) = \log_3 2 \cdot \log_3 n$$

☐ Yes

☒ No

1
point

5.

$$\log_{10}(n^2) = 2\log_{10} n$$

☐ Yes

☒ No

1
point

6.

$$n^{\log_7 3} = 7^{\log_3 n}$$

☐ Yes

☐ No

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