Logarithms

Back to Week 2

6/6 points earned
(100%)

Quiz passed!

1 / 1
points

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

Correct Response

$(\log_5 n)^2$ is just $(\log_5 n)(\log_5 n)$

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1 / 1 points

2.

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

- [x] Yes

Correct Response

- [ ] No

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1 / 1 points

3.

$n^{\log_2 n} = n$

- [ ] Yes
- [x] No

Correct Response

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1 / 1 points

4.

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

- [ ] Yes
- [x] No

Correct Response

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1 / 1 points

5.
$\log_{10}(n^2) = 2\log_{10} n$

- Yes

Correct Response

- No

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1 / 1 points

6.
$n^{\log_7 3} = 7^{\log_3 n}$

- Yes
- No

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