

Quiz 2

⚠ This is a preview of the published version of the quiz

Started: Mar 18 at 11:35am

Quiz Instructions

This quiz covers the topics in Homework 8 and 9.

It is not timed or proctored. You have a maximum of three attempts.

Question 1

1 pts

Solve the equation $\log_3 x = -4$

- $\frac{1}{64}$
- 64
- 81
- $\frac{1}{81}$

Question 2

1 pts

$2^{\log_2 5}$ is equal to

- 5
- 20
- 1024
- 10

Question 3

1 pts

$\log_7 \left(\frac{1}{\sqrt[3]{7}} \right)$ is equal to

- 1/3
- 3
- 3
- 1/3

Question 4

1 pts

What can be inferred from the equation $2^a = 3^b$?

- $b = \frac{a}{\log_3 2}$
- $b = \frac{a}{\log_2 3}$
- $b = a \log_2 3$
- $b = a \log_3 2$

Question 5

2 pts

Let $2^x = 5$

Choose ALL correct statements.

- $x = \frac{\ln 5}{\ln 2}$
- $x = \sqrt[5]{2}$
- $x = \log_5 2$

$x = \log_2 5$

$x = \sqrt{5}$

Question 6**2 pts**

Choose ALL correct statements. The numbers a and b are assumed to be positive.

$a^0 = 0$

$\ln(ab) = \ln a + \ln b$

$\log_a 1 = 0$ (where $a > 0$, $a \neq 1$)

$\ln a = \log_e a$

$\log a = \log_{10} a$

$\ln(2a) = 2 \ln a$

$\ln(a + b) = \ln a + \ln b$

$1^a = a$

Question 7**1 pts**

The expression

$$\log 3 - \frac{1}{2} \log(x - 1) + 2 \log x$$

can be written as a single logarithm as follows:

$\log\left(\frac{6x}{\sqrt{x-1}}\right)$

$\log\left(3 - \frac{x-1}{2} + 2x\right)$

$\log\left(\frac{3x^2}{\sqrt{x-1}}\right)$

$\log(3 - \sqrt{x-1} + x^2)$

Question 8

1 pts

The domain of the function $e^{1/x}$ is

$(-\infty, 0)$

$(-\infty, 0) \cup (0, \infty)$

$(-\infty, \infty)$

$(0, \infty)$

Question 9

1 pts

The domain of the function $\ln\left(\frac{x}{x^2-1}\right)$ is

$(-1, 0) \cup (1, \infty)$

$(-\infty, -1) \cup (0, 1)$

$(0, 1) \cup (1, \infty)$

$(-1, 0) \cup (0, 1)$

Question 10

2 pts

Choose ALL correct statements. The number a is assumed to be positive.

$\log\left(\frac{1}{a}\right) = -\log a$

$\log_{1/2}(a) = -\log_2 a$

$\ln(a^3) = (\ln a)^3$

$\log_4 a = \frac{1}{2}\log_2 a$

Not saved

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