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QUESTION 1



Drag and drop the correct answer into the space(s) provided.

Rewrite

$\log 48$

in terms of

$\log 12$

and

$\log 3$

.

$\log 48 =$

$\log 144 - \log 3$ ✓

$=$

$\log 12^2 - \log 3$ ✓

$=$

$2 \log 12 - \log 3$ ✓

$(\log 12^2)(\log 3)$

$2(\log 12)(\log 3)$

$\log 144 + \log 3$

$\log 12^2 + \log 3$

$2 \log 12 + \log 3$

QUESTION 2



Drag and drop the correct answer into the space(s) provided.

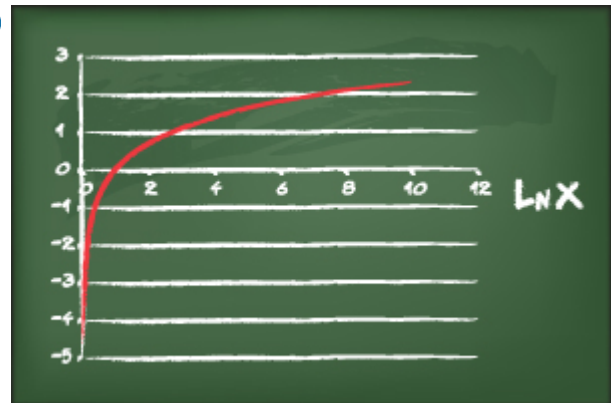
Determine the value of

$$8 \ln e^3 + 2 \ln e^6$$

.

$$8 \ln e^3 + 2 \ln e^6 =$$

36



12

34

24

QUESTION 3



Drag and drop the correct answer into the space(s) provided.

Express

$$\log 432$$

in terms of

$$\log 3$$

and

$\log 4$

.

$\log 432 =$

$3 \log 3 + 2 \log 4$ ✓

$6(\log 3)(\log 4)$

$9 \log 3 + 4 \log 4$

$9 \log 3 - 4 \log 4$

QUESTION 4



Drag and drop the correct answer into the space(s) provided.

Rewrite

$\log_2 324$

in terms of

$\log_2 3$

and

$\log_2 6$

.

$\log_2 324 = \log_2(36)(9)$

$=$

$\log_2 36 + \log_2 9$ ✓

$=$

$$\log_2 6^2 + \log_2 3^2 \checkmark$$

=

$$2 \log_2 6 + 2 \log_2 3 \checkmark$$

$$2 \log_2 6 - 2 \log_2 3$$

$$4(\log_2 6)(\log_2 3)$$

$$\log_2 6^2 - \log_2 3^2$$

$$(\log_2 36)(\log_2 9)$$

$$\log_2 36 - \log_2 9$$

$$(\log_2 6^2)(\log_2 3^2)$$

QUESTION 5



Fill in the blank(s) with the correct answer.

Express

$$\ln \frac{49}{16}$$

in terms of

$$\ln 2$$

and

$$\ln 7$$

.

$$\ln \frac{49}{16} =$$

2



$$\ln 7 -$$

4



$$\ln 2$$

QUESTION 6



Fill in the blank(s) with the correct answer.

Rewrite

$$\ln \frac{\sqrt{64}}{\sqrt[4]{36}}$$

in terms of

$$\ln 4$$

and

$$\ln 6.$$

$$\ln \frac{\sqrt{64}}{\sqrt[4]{36}} =$$

3

2



$$\ln 4 -$$

$$\frac{1}{2}$$



$\ln 6$

QUESTION 7



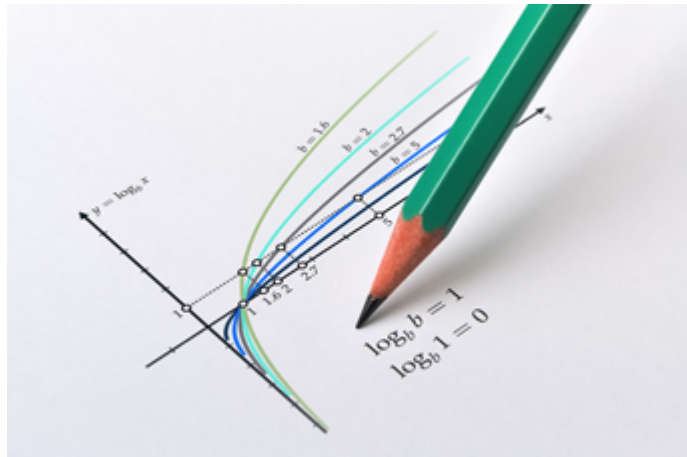
Fill in the blank(s) with the correct answer.

Evaluate

$$\log_7 \sqrt[4]{343}.$$

$$\log_7 \sqrt[4]{343} =$$

$$\frac{3}{4}$$



QUESTION 8



Choose the correct answer from the drop-down menu.

Use $\log 3$ and $\log 11$ to express $\log 99$.

$$\log 99 =$$

$$\log 11 + \log 9$$



=

$$\log 11 + \log 3^2 \quad \checkmark \quad \vee$$

=

$$\log 11 + 2 \log 3 \quad \checkmark \quad \vee$$

QUESTION 9



Choose the correct answer from the drop-down menu.

Rewrite

$\ln 4$

in terms of

$\ln 5$

and

$\ln 10$

.

$\ln 4 =$

$$\ln 100 - \ln 25 \quad \checkmark \quad \vee$$

=

$$\ln 10^2 - \ln 5^2 \quad \checkmark \quad \vee$$

=

$$2\ln 10 - 2\ln 5 \quad \checkmark \quad \vee$$

QUESTION 10



Choose the correct answer from the drop-down menu.

What is

$$\log_8 \frac{\sqrt{243}}{\sqrt[3]{25}}$$

in terms of

$$\log_8 3$$

and

$$\log_8 5.$$

$$\log_8 \frac{\sqrt{243}}{\sqrt[3]{25}} =$$

$$\frac{5}{2} \log_8 3 - \frac{2}{3} \log_8 5 \quad \checkmark \quad \vee$$

QUESTION 11



Choose the correct answer from the drop-down menu.

Evaluate

$$\log 100,000 + \log_8 \sqrt[5]{4096}.$$

$$\log 100,000 + \log_8 \sqrt[5]{4096} =$$

$5\frac{4}{5}$ ✓ ▼

QUESTION 12



Choose the correct answer from the drop-down menu.

Evaluate

$$\log_{15} \sqrt[3]{225} - \log_6 216.$$

$$\log_{15} \sqrt[3]{225} - \log_6 216 =$$

$-2\frac{1}{3}$ ✓ ▼

QUESTION 13



Select the correct option.

What is the value of

$$\log_8 \sqrt[5]{512}$$

?



$$\frac{8}{5}$$



$$\frac{3}{5}$$



$$\frac{5}{3}$$



$$\frac{5}{8}$$

QUESTION 14



Select the correct option.

Which expression is another form of

$$\log_7 384$$

?



$$2 \log_7 8 + \log_7 6$$



$$2 \log_7 8 + 2 \log_7 3$$

☐ $3 \log_7 4 + 2 \log_7 3$

☐ $3 \log_7 4 - \log_7 6$

QUESTION 15



Select the correct option.

Express $\ln 45$ in terms of $\ln 3$ and $\ln 5$.

☐ $(2 \ln 3)(2 \ln 5)$

☐ $2 \ln 3 + 2 \ln 5$

☒ $2 \ln 3 + \ln 5$



☐ $(2 \ln 3)(\ln 5)$