Answer on Question #57016 - Math - Algebra

Question

1. Which of the following are true statements?
Check all that apply

log(M/N) = logM – logN
logM^p = p · logM
(logM)^p = p · logM
log(M/N) = logM/logN

Solution

log(M/N) = logM – logN
logM^p = p · logM

are true, the rest are false.

Question

2. Fill in the blank: log sub 5 625 = _____· _____

Solution

log sub 5 625 = 4

log sub 5 625 = x =>
5^x = 625 =>
5^x = 5^4 =>
x = 4

Answer: 4.

Question

3. Which of the following equations is equivalent to b^v = x ?

A: y = lnx
B: y = logb X
C: y = logb Y
D: y = logX

Solution

There is a mistake in statement of this question, b^v = x – instead of "v" should be "y"**)**

B: y = logb X

Question

4. Rewrite the following expression as a single logarithm:

(2log(x + 3) + 2log(x – 2)) – (3log(x – 7) + log (x^2))

((x+3)^2 (x-7)^3)
A: log (----------)
((x-2)^-5 x^-2)

((x+3)^2 (x-2)^2)
B: log (----------)
((x-7)^3 x^2)

((x+3)^2 (x-7)^3))
C: log (----------)
(x^2(x-2)^5)

(x^2 (x+3)^2 (x-7)^3)
D: log (----------)
(x^2 (x-2)^5)

Solution

$$(2log(x+3)+2log(x-2))-\left(3log(x-7)+log(x^2)\right)$$
$$=log((x+3)^2(x-2)^2)-log((x-7)^3x^2)=log\frac{(x+3)^2(x-2)^2}{(x-7)^3x^2}$$

Answer:

((x+3)^2 (x-2)^2)

B: log (----------)
((x-7)^3 x^2)

Question

5. If logx = -5, what is x?
A: 0.00001
B: -0.00001
C: -0.00005
D: 0.00005

Solution:

A: 0.00001

logx = -5 => 10^(-5) = x => x = 1/100000 => x = 0.00001.