ELITESGRID LOGARITHM ASSIGNMENT

1. $\log_9 (3\log_2 (1 + \log_3 (1 + 2\log_2 x))) = 1/2$. Find x.
   (A) 2 (B) 1 (C) ¼ (D) ½

2. If $\log_2 X + \log_4 X = \log_{0.25} \sqrt{6}$ and x > 0, then x is
   (A) $6^{-1/6}$ (B) $6^{1/6}$ (C) $3^{-1/3}$ (D) $6^{1/3}$

3. If $2^{2x+4} - 17*2^{x+1} = -4$, then which of the following is true?
A. x is a positive value
B. x is a negative value
C. x can be either a positive value or a negative value
D. None of these

4. If $\log_{12}27 = a$, $\log_9 16 = b$, find $\log_8 108$
A. 2(a+3)/3b
B. 2(a+3)/3a
C. 2(b+3)/3a
D. 2(b+3)/3b

5. $\text{Log}_x Y + \text{Log}_y X^2 = 3$. Find $\text{Log}_x Y^3$
A. 4 B. 3 C. $3^{1/2}$ D. $3^{1/16}$

6. $\text{Log}_3 x + \text{Log}_x 3 = 17/4$. Find x
A. 3^4 B. $3^{1/8}$ C. $3^{1/6}$ D. $3^{1/4}$

7. If $\log_7 \log_5 (\sqrt{x+5} + \sqrt{x}) = 0$, find the value of x
A. 1 B. 0 C. 2 D. None of these

8. $\log_2[\log_7 (x^2 - x + 37)] = 1$, then what could be the value of x?
A. 3 B. 4 C. 5 D. None of these

9. ⅓ $\log_3 M + 3\log_3 N = 1 + \log_{0.008} 5$, then

A. $M^9 = 9/N$ C. $M^3 = 3/N$

B. $N^9 = 9/M$ D. $N^9 = 3/M$

10. $(\log_{16} 25)(\log_5 5)(\log_5 4)$ is equal to

A. 1 B. 2 C. 4 D. 0

11. If log2 = 0.3010 and log3 = 0.4771, then find the approximate value of log36

A. 2.65 B. 1.65 C. 1.56 D. 2.56

12. If $\log_a(ab) = x$, then $\log_b(ab)$ is equal to

A. x/(x+1) B. 1/x C. x/(x-1) D. x/(1-x)

13. Find the value of $\{1/(\log_3 84) + 1/(\log_4 84) + 1/(\log_7 84)\}$

A. 1 B. 3 C. 4 D. 2

14. If $f(x) = log\{(1-x)/(1+x)\}$, then f(x) + f(y) is

A. f(x+y) B. f($\frac{x+y}{1+xy}$) C. (x+y)f($\frac{1}{1+xy}$) D. f(x) + f(y)/(1+xy)

15. Solve for x, $\log_{10} x - \log_{10} \sqrt{x} = 2\log_x 10$

A. 200 B. 100 C. 50 D. 1000

16. If $x \geq y$ and $y > 1$, then the value of expression $\log_x(x/y) + \log_y(y/x)$ can never be

A. -1 B. 0 C. 1 D. -½

17. Find the value of x satisfying $\log_{10}(2^x + x - 41) = x\,(1 - \log_{10} 5)$.

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18. If the product of the roots of the equation, $x^{\left(\frac{3}{4}\right)(\log_2 x)^2 + \log_2 x - \left(\frac{5}{4}\right)} = \sqrt{2}$ is $\frac{1}{\sqrt[b]{a}}$ (where $a, b \in N$) then the value of $(a+b)$.

Answers

1. A
2. A
3. C
4. D
5. B
6. D
7. D
8. B
9. B
10. A
11. C
12. C
13. A
14. B
15. B
16. C
17. 41
18. 19