DPP

DAILY PRACTICE PROBLEMS

Class : XI$_{TH}$ | Subject : MATHS

Date : | DPP NO. : 01

TOPIC :- LOGARITHM

1 . **Find all values of X for which the following equalities hold true.**

a. $log_2 x^2 = 1$ b. $log_3 x = log_3(2 - x)$ c. $log_4 x^2 = log_4 x$

d. $log_{1/2}(2x + 1) = log_{1/2}(x + 1)$ e. $log_{1/3}(x^2 + 8) = -2$

2. **Find all the values of X for which the following equalities hold true.**

a. $log_2 x^2 = 2$ b. $log_{1/4} x^2 = 1$

c. $log_{1/2} x - log_{1/2}(3 - x) = 0$ d. $log_2(x + 1) - log_2(2x - 3) = 0$

3. **Evaluate** : $2^{log_3 5} - 5^{log_3 2}$

4. **Evaluate :** $\frac{log_3 135}{log_{15} 3} - \frac{log_5 5}{log_{405} 3}$

5. **Find antilog of** $\frac{5}{6}$ **to the base 64**

6. **If** $\frac{1}{log_3 \pi} + \frac{1}{log_4 \pi} > x$ **, then** x **can be –**

a. 2 b. 3 c. 3.5 d. π

7. $\frac{log_8 (8/x^2)}{(log_8 x)^2} = 3$

8. $x^{x+1} = 1$

9. **Evaluate** : $log_3 4 . log_4 5 . log_5 6 . log_6 7 . log_7 8 . log_8 9$

10. $|log_2 x| = 3$

11. If $log_a 3 = 2$ and $log_b 8 = 3$, then $log_a b$ is –

    a. $log_3 2$ b. $log_2 3$ c. $log_3 4$ d. $log_4 3$

12. $\sqrt{x^{log_{10}\sqrt{x}}} = 10$

13. $log_a\left(1 - \sqrt{1+x}\right) = log_{a^2}\left(3 - \sqrt{1+x}\right)$

14. $2log_8(2x) + log_8(x^2 + 1 - 2x) = \left(3 - \sqrt{1+x}\right)$

15. $log_3(4^x + 15.2^x + 27) - 2log_3(4.2^x - 3) = 0.$

16. Find value of following

    a. $log_7 3.\ log_5 2.\ log_3 7.\ log_2(125)$ b. $25^{log_5 3}$

    c. $6^{log_6 5} + 3^{log_9 16}$ d. $log_6 4 + \frac{1}{log_9 6}$

17. $x^{x+1} = x.$

18. $x^{log(x+3)^2} = 16$

19. $log_x 3.\ log_{x/3} 3 + log_{x/81} 3 = 0.$

20. $1 + 2\ log_x 2.\ log_4(10 - x) = 2/log_4 x.$

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