CAT PRACTICE : EXPONENTS AND LOGARITHMS

The following topics are covered in the CAT quant section from Arithmetic in Exponents and Logarithms. Detailed explanatory answers, solution videos and slide decks are also provided.

1 LOGARITHM - INEQUALITIES

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. $6^{1/3}$

Correct answer | Explanatory Answer | Logarithm - Inequalities | Medium

2 LOGARITHM - SIMPLE

$\log_9 (3\log_2 (1 + \log_3 (1 + 2\log_2 x))) = \frac{1}{2}$. Find x.

A. 4
B. $\frac{1}{2}$
C. 1
D. 2

Correct answer | Explanatory Answer | Logarithm Properties | Easy

3 LOGARTIHM - QUADRATIC EQUATIONS

If $2^{2x+4} - 17 \times 2^{x+1} = -4$, 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

Correct answer | Explanatory Answer | Exponents - Quadratic Equations | Easy

4 LOGARTIHM - ALGEBRA

If $\log_{12} 27 = a$, $\log_9 16 = b$, find $\log_8 108$.

A. $\frac{2(a+3)}{3b}$
B. $\frac{2(a+3)}{3a}$
C. $\frac{2(b+3)}{3a}$
D. $\frac{2(b+3)}{3b}$

Correct answer | Explanatory Answer | Logarithm manipulation | Hard

5 LOGARITHM - INEQUALITIES

$\frac{log_3 x - 3}{log_3 x - 5} < 0$. If a, b are integers such that x = a, and x = b satisfy this inequation, find the maximum possible value of a – b.

A. 214
B. 216
C. 200
D. 203

Correct answer | Explanatory Answer | Logarithm - Inequalities | Hard

6 LOGARITHMS - DIFFERENT BASES

$\log_5 x = a$ (This should be read as log X to the base 5 equals a) $\log_{20} x = b$. What is $\log_x 10$?

A. $\frac{a+b}{2ab}$
B. (a + b) * 2ab
C. $\frac{2ab}{a+b}$
D. $\frac{a+b}{2}$

Correct answer Explanatory Answer Logarithm - Algebra Medium

7 BASIC IDENTITIES OF LOGARITHM

$Log_3 x + Log_x 3 = \frac{17}{4}$.Find x.

A. 3^4
B. $3^{\frac{1}{8}}$
C. $3^{\frac{1}{4}}$
D. $3^{\frac{1}{3}}$

Correct answer Explanatory Answer Basic identities of Logarithm Medium

8 BASIC IDENTITIES OF LOGARITHM

$Log_x y + Log_y x^2 = 3$. Find $Log_x y^3$.

A. 4
B. 3
C. $3^{\frac{1}{2}}$
D. $3^{\frac{1}{16}}$

Correct answer Explanatory Answer Basic identities of Logarithm Medium

9 BASIC IDENTITIES OF LOGARITHM

If $\log_2 4 * \log_4 8 * \log_8 16 *$ .....nth term = 49, what is the value of n?

A. 49
B. 48
C. 34
D. 24

Correct answer Explanatory Answer Basic identities of Logarithm Hard

10 BASIC IDENTITIES OF LOGARITHM

If $3^{3+6+9+.....x \text{ terms}} = (0.\overline{037})^{-66}$ and (x > 70),
What is the value of x?

A. 3
B. 6
C. 7
D. 11

Correct answer Explanatory Answer Basic identities of Logarithm Hard

11 BASIC IDENTITIES OF LOGARITHM

x,y,z are 3 integers in a geometric sequence such that y- x is a perfect cube.
Given, $\log_{36} x^2 + \log_6 \sqrt{y} + 3\log_{216} y^{1/2} z = 6$. Find the value of x+y+z.

A. 189
B. 190
C. 199
D. 201

Correct answer Explanatory Answer Basic identities of Logarithm Hard

12 BASIC IDENTITIES OF LOGARITHM

$10^{\log(3 - 10^{\log y})} = \log_2(9 - 2^y)$, Solve for y

A. 0
B. 3
C. 0 and 3
D. none of these

Correct answer Explanatory Answer Basic identities of Logarithm Medium

13 VALUE OF X

$4^{6+12+18+24+...+6x} = (0.0625)^{-84}$, what is the value of x?

A. 7
B. 6
C. 9
D. 12

Correct answer Explanatory Answer Value of x Hard

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Logarithms and Exponents	DI - Word Problems	Mensuration	VA - Para Completion
Pipes Cisterns	DI - Line Graphs	Permutation; Probability	VA - Text Completion

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