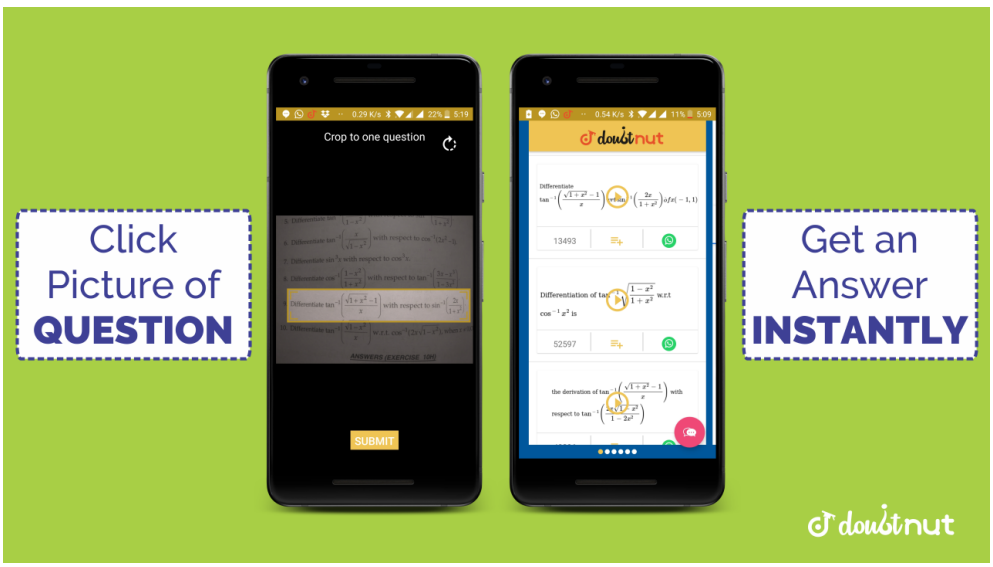
JEE ADVANCED SUPER 25 REVISION SERIES

LINEAR INEQUALITIES

Ques No.	Question
1 - 21930	**JEE ADVANCED SUPER 25 REVISION SERIES - LINEAR INEQUALITIES** The least value of the expression $2(\log)_{10}x-(\log)_x(0.01)$. for $x>1$ is (a)10 (b)2 (c) -0.01 (d)4 Watch Free Video Solution on Doubtnut
2 - 22068	**JEE ADVANCED SUPER 25 REVISION SERIES - LINEAR INEQUALITIES** If $\theta\in[0,5\pi]$ and $r\in R$ such that $2\sin\theta=r^4-2r^2+3$ then the maximum number of values of the pair (r,θ) is..... Watch Free Video Solution on Doubtnut
3 - 27983	**JEE ADVANCED SUPER 25 REVISION SERIES - LINEAR INEQUALITIES** The largest interval for which$x^{12}-x^9+x^4-x+1>0$ Watch Free Video Solution on Doubtnut
4 - 30585	**JEE ADVANCED SUPER 25 REVISION SERIES - LINEAR INEQUALITIES** If $S=a_1+a_2+.....+a_n, a_i\in R^+$ for i=1 to n, then prove that $\frac{S}{S-a_1}+\frac{S}{S-a_2}+.....+\frac{S}{S-a_n}\geq\frac{n^2}{n-1}, \forall n\geq 2$

	Watch Free Video Solution on Doubtnut
5 - 30614	**JEE ADVANCED SUPER 25 REVISION SERIES - LINEAR INEQUALITIES** If $a_1 + a_2 + a_3 + ... + a_n = 1 \forall a_1 > 0, i = 1, 2, 3, ..., n,$ then find the maximum value of $a_1 a_2 a_3 a_4 a_5 ..... a_n$. Watch Free Video Solution on Doubtnut
6 - 30650	**JEE ADVANCED SUPER 25 REVISION SERIES - LINEAR INEQUALITIES** The minimum value of the sum of real number $a^{-5}, a^{-4}, 3a^{-3}, 1, a^8$ and a^{10} with $a > 0$ is Watch Free Video Solution on Doubtnut
7 - 30666	**JEE ADVANCED SUPER 25 REVISION SERIES - LINEAR INEQUALITIES** If $\alpha \in \left(0, \frac{\pi}{2}\right)$, then $\sqrt{x^2 + x} + \frac{\tan^2 \alpha}{\sqrt{x^2 + x}}$ is always greater than or equal to (a) $2 \tan \alpha$ (b)1 (c) 2 (d) $\sec 2\alpha$ Watch Free Video Solution on Doubtnut
	
8 - 30730	**JEE ADVANCED SUPER 25 REVISION SERIES - LINEAR INEQUALITIES** If a,b,c are different positive real numbers such that $b + c - a, c + a - b$ and $a + b - c$ are positive, then $(b + c - a)(c + a - b)(a + b - c) - abc$ is a. positive b. negative c. non-positive d. non-negative Watch Free Video Solution on Doubtnut
9 - 30733	**JEE ADVANCED SUPER 25 REVISION SERIES - LINEAR INEQUALITIES** Find the greatest value of $x^2 y^3$, where x and y lie in the first quadrant on the line $3x + 4y = 5$. Watch Free Video Solution on Doubtnut

10 - 30735

JEE ADVANCED SUPER 25 REVISION SERIES - LINEAR INEQUALITIES

Find the maximum value of $(7-x)^4(2+x)^5$ when x lies between −2 and 7.

Watch Free Video Solution on Doubtnut

11 - 30768

JEE ADVANCED SUPER 25 REVISION SERIES - LINEAR INEQUALITIES

The minimum value of $\frac{x^4+y^4+z^2}{xyz}$ for positive real numbers x, y, z is (a)$\sqrt{2}$ (b)$2\sqrt{2}$ (c) $4\sqrt{2}$ (d)$8\sqrt{2}$

Watch Free Video Solution on Doubtnut

12 - 30775

JEE ADVANCED SUPER 25 REVISION SERIES - LINEAR INEQUALITIES

The least value of $6\tan^2\varphi+54\cot^2\varphi+18$ is (I)54 when $A.M. \geq GM.$ Is applicable for $6\tan^2\varphi, 54\cot^2\varphi, 18$ (II)54 when $A.M. \geq GM.$ Is applicable for $6\tan^2\varphi, 54\cot^2\varphi$ and18 is added further (III)78 when $\tan^2\varphi=\cot^2\varphi$ (IV) none

Watch Free Video Solution on Doubtnut

13 - 30786

JEE ADVANCED SUPER 25 REVISION SERIES - LINEAR INEQUALITIES

If the product of n positive numbers is n^n , then their sum is (a)a positive integer (b). divisible by n (c)equal to $n+1/n$ (d)never less than n^2

Watch Free Video Solution on Doubtnut

14 - 30837

JEE ADVANCED SUPER 25 REVISION SERIES - LINEAR INEQUALITIES

If $a>0,$ then least value of $\left(a^3+a^2+a+1\right)^2$ is (a)$64a^2$ (b)$16a^4$ (c)$16a^3$ (d)d. none of these

Watch Free Video Solution on Doubtnut

15 - 30862

JEE ADVANCED SUPER 25 REVISION SERIES - LINEAR INEQUALITIES

If l, m, n are the three positive roots of the equation $x^3 - ax^2 + bx - 48 = 0$, then the minimum value of $(1/l) + (2/m) + (3/n)$ equals $1\ 2\ 3/2\ 5/2$

Watch Free Video Solution on Doubtnut

16 - 30864

JEE ADVANCED SUPER 25 REVISION SERIES - LINEAR INEQUALITIES

If positive numbers a, b, c are in H.P., then equation $x^2 - kx + 2b^{101} - a^{101} - c^{101} = 0 (k \in R)$ has (a)both roots positive (b)both roots negative (c)one positive and one negative root (d)both roots imaginary

Watch Free Video Solution on Doubtnut

17 - 30877

JEE ADVANCED SUPER 25 REVISION SERIES - LINEAR INEQUALITIES

If $a, b, c \in R^+, then \frac{bc}{b+c} + \frac{ac}{a+c} + \frac{ab}{a+b}$ is always (a) $\leq \frac{1}{2}(a+b+c)$ (b) $\geq \frac{1}{3}\sqrt{abc}$ (c) $\leq \frac{1}{3}(a+b+c)$ (d) $\geq \frac{1}{2}\sqrt{abc}$

Watch Free Video Solution on Doubtnut

18 - 34800

JEE ADVANCED SUPER 25 REVISION SERIES - LINEAR INEQUALITIES

If $a_1, a_2, a_3, \ldots. a_n$ are positive real numbers whose product is a fixed number c, then the minimum value of $a_1 + a_2 + \ldots. + a_{n-1} + 2a_n$ is

Watch Free Video Solution on Doubtnut

19 - 40044

JEE ADVANCED SUPER 25 REVISION SERIES - LINEAR INEQUALITIES

If x satisfies $|x-1| + |x-2| + |x-3| \geq 6$

Watch Free Video Solution on Doubtnut

20 - 41829	**JEE ADVANCED SUPER 25 REVISION SERIES - LINEAR INEQUALITIES** The minimum value of $2^{\sin x}+2^{\cos x}$ Watch Free Video Solution on Doubtnut
21 - 46165	**JEE ADVANCED SUPER 25 REVISION SERIES - LINEAR INEQUALITIES** If S is the set of all real numbers x for which > 0 $\frac{2x-1}{2x^3+3x^2+x}$ and P is the subset of S, Watch Free Video Solution on Doubtnut
22 - 48725	**JEE ADVANCED SUPER 25 REVISION SERIES - LINEAR INEQUALITIES** The number of real solutions of the equation $\|x\|^2-3\|x\|+2=0$ Watch Free Video Solution on Doubtnut
23 - 48962	**JEE ADVANCED SUPER 25 REVISION SERIES - LINEAR INEQUALITIES** A straight line through the vertex P of a triangle PQR intersects the side QR at the point S and the circuecirele of the triangle PQR at the point T. If S is not the centre of the circumeircle, then Watch Free Video Solution on Doubtnut
doubtnut पढ़ना हुआ आसान	

24 - 51659

JEE ADVANCED SUPER 25 REVISION SERIES - LINEAR INEQUALITIES

The product of n positive numbers is unity, then their sum is (1991, 2M) a positive integer (b) divisible by n equal to $n+\frac{1}{n}$ (d) never less than n

Watch Free Video Solution on Doubtnut

25 - 59432

JEE ADVANCED SUPER 25 REVISION SERIES - LINEAR INEQUALITIES

If a,b,c,d are positive real number with $a+b+c+d=2$,then $M=(a+b)(c+d)$ satisfies the inequality

Watch Free Video Solution on Doubtnut