

RAMA EDU CARE TAMIL NADU 12 TH MATHS COMPULSORY QUESTION

PH.8754834604

- The volume of the parallel piped whose cotermious edges are $7i+\lambda j-3k$, $i+2j-k$, $-3i+7j+5k$ is 90 cubic units . Find the value of λ .
- Evaluate $\int_0^3 (3x^2 - 4x + 5)dx$
- Show that the vectors are $2i-j+3k$, $i-j$, and $3i-j+6k$ are coplanar
- If $A = \begin{bmatrix} 2 & -1 & 3 \\ -5 & 3 & 1 \\ -3 & 2 & 3 \end{bmatrix}$, then find $|\text{adj}(\text{adj}A)|$
- Let $A = \begin{bmatrix} 0 & 1 \\ 1 & 1 \end{bmatrix}$, $B = \begin{bmatrix} 1 & 1 \\ 0 & 1 \end{bmatrix}$ be any two Boolean matrices of the same type. Find $A \vee B$ and $A \wedge B$
- Show that the polynomial equation $9x^9 + 2x^5 - x^4 - 7x^2 + 2 = 0$ has at least six imaginary roots
- Express $e^{(\cos \theta + i \sin \theta)}$ in $a+ib$ form
- If $a+b+c=0$ and a,b,c are rational numbers then , prove that the roots of the equation $(b+c-a)x^2+(c+a-b)x+(a+b-c)=0$ are rational numbers
- Form the differential equation of the curve $y=ax^2+bx+c$ where a,b and c are arbitrary constants.
- Prove that $\int_0^1 x e^x dx = 1$
- Show that the distance from the origin to the plane $3x+6y+2z+7=0$ is 1
- Prove that the general equation of the circle whose diameter is the line segment joining the points $(-4,-2)$ and $(-1,-1)$, is $x^2 + y^2 + 5x + 3y + 6 = 0$.
- Show that the differential equation corresponding to $Y=A \sin x$, where A is an arbitrary constant, is $y=y \tan x$.
- Show that $\int_0^1 \sqrt{x}/\sqrt{1-x} + \sqrt{x}$
- Show that, if $x=r \cos \theta$, $y=r \sin \theta$, then $\frac{\partial u}{\partial x}$ is equal to $\cos \theta$.
- Show that $((-q) \wedge p) \wedge q$ is a contradiction.
- Find the equation of the parabola if the curve is open leftward, vertex is $(2, 1)$ and passing through the point $(1,3)$.
- If the lines $\frac{x-x_1}{l_1} = \frac{y-y_1}{m_1} = \frac{z-z_1}{n_1}$ and $\frac{x-x_2}{l_2} = \frac{y-y_2}{m_2} = \frac{z-z_2}{n_2}$ be on the same plane, then write the number of ways to find the Cartesian equation of the above plane and explain in detail.
- Find an approximate value of $\int_1^{1.5} (2-x)dx$ by applying the mid-point rule with the partition $\{1.1,1.2,1.3,1.4,1.5\}$.
- In a binomial distribution consisting of 5 independent trials, the probability of 1 and 2 successes are 0.4096 and 0.2048 respectively. Find the mean and variance of the random variable.

ALL THE BEST

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