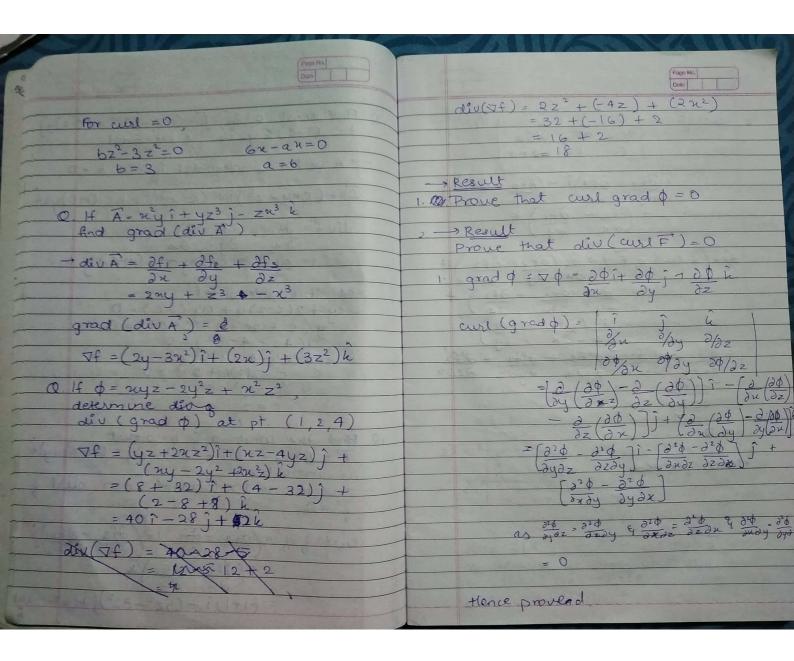
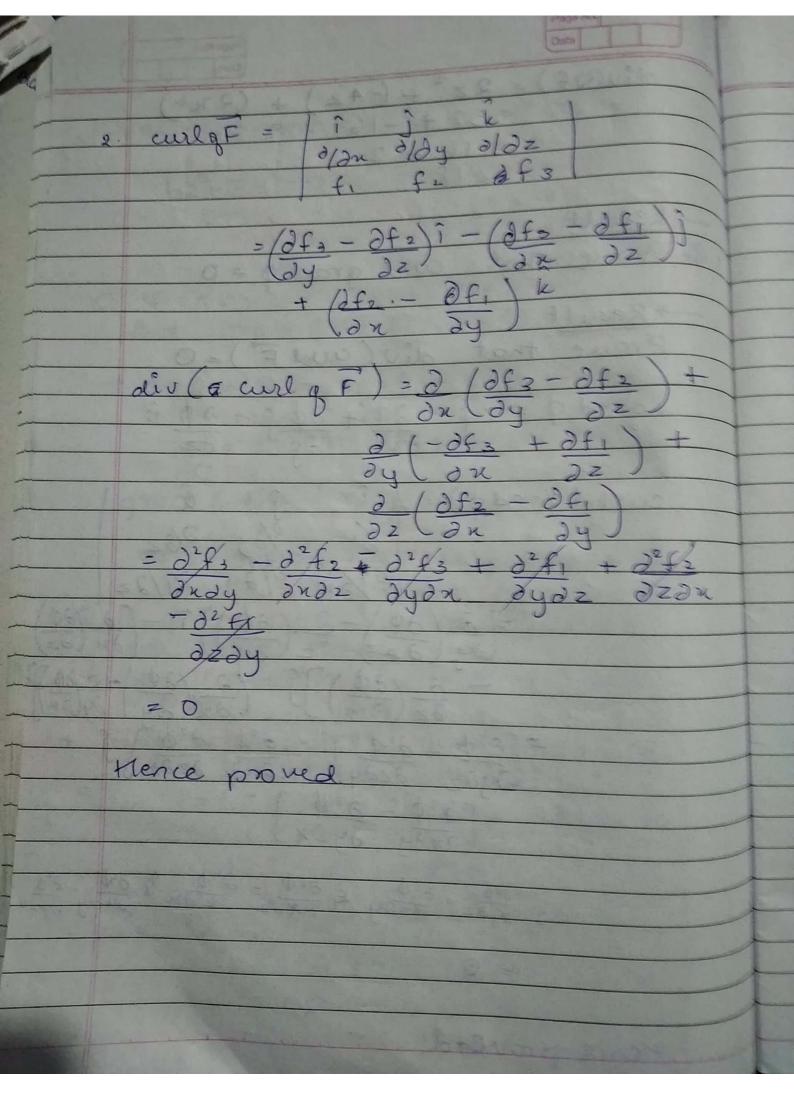


S Propries Date	V with scalar → gradient V with vector & dot production of the gence v with vector & cross product → curl
	div $\vec{f} = \nabla \cdot \vec{f}$ $(\partial_x \hat{i} + \partial_y \hat{j} + \partial_x \hat{i}) \cdot (f_1 \hat{i} + f_2 \hat{j}^4 f_2 \hat{i})$ $= \partial_x \hat{i} + \partial_y \hat{i} + \partial_z \hat{i}$ Physical significance of divergence. If \vec{f} represents the velocity of
$ \begin{array}{c c} \theta = \cos^{-1} \left[\frac{\nabla \phi}{ \nabla \psi } \right] \\ = \cos^{-1} \left[\frac{-16 - A + 4}{6(\sqrt{21})} \right] \end{array} $	If f represents the velocity of fluid in the fluid flow, div. f represent the rate of fluid flow through unit volume. Solenoidal Vector.
$= \omega_{5}^{-1} \begin{bmatrix} -168 \\ -8 \sqrt{21} \end{bmatrix}$ $= \omega_{5}^{-1} \begin{bmatrix} -3 \\ 3\sqrt{21} \end{bmatrix}$	A vector f is said to be solenoidal if divergence g f = 0 Curl g a vector f t f
Divergence e Vector ft? Let f=fil+f2j+f3k be a given vector ft? differentiable at each pt (x, y, z) in a cortain region a space then the divergence e f is denoted by div f 2 is defined as	Let $f = f_1 \hat{i} + f_2 \hat{j} + f_3 \hat{k}$ be a vector It differentiable at each point (x, y, z) in a certain region of space, then curl of f is defined as curly as $f = \nabla \times f' = \frac{1}{2} \int_{0}^{\infty} \frac{1}{2} \int_$

The state of the s	[Page Fac]
Instational vector. A vector \vec{f} is said to be invotational if curl q \vec{f} = 0 Prove that $\vec{f} = (2x + yz)\hat{i} + (4y + uz)\hat{j}$ Prove that $\vec{f} = (2x + yz)\hat{i} + (4y + uz)\hat{j}$ Prove that $\vec{f} = (2x + yz)\hat{i} + (4y + uz)\hat{j}$ Prove that $\vec{f} = (2x + yz)\hat{i} + (4y + uz)\hat{j}$ A vector is solenoidal if $\vec{f} = 0$ $\vec{f} = (2x + yz)\hat{i} + (4y + uz)\hat{j} + (6z + uy)\hat{i}$ A vector is solenoidal if $\vec{f} = 0$ A vector is solenoidal Curl $\vec{f} = 0$ Solenoidal Curl $\vec{f} = 0$ Solenoidal $\vec{f} = 0$ $\vec{f} = 0$ A vector is invotational as an array $\vec{f} = 0$	Q find const c if $F = (cny - z^2)\hat{i} + (c^2)\hat{j}$ + $C(1-c)\hat{k}$ yz \hat{k} is solenoidal. A vector is solenoidal if div , $f = 0$ $f' = (cny - z^3)\hat{i} + (c-2)y^2\hat{j} + c(1-c)y^2\hat{k}$ $div f' = \frac{\partial f_1}{\partial x} + \frac{\partial f_2}{\partial y} + \frac{\partial f_3}{\partial y}$ $- cy + 2(c-2)y + c(1-c)y = 0$ $cy + 2(c-2)y + (cy(1-c) = 0)$ $y + 2(c-2)y + (cy(1-c) = 0$ $y + 2(c-2)y + (cy(1-c) = 0)$ $y + 2(c-2)y + (cy(1-c) = 0$ $y + 2(c-2)y + ($
arl g F = 0	curl $g = \frac{\partial f_3}{\partial y} - \frac{\partial f_2}{\partial z} \hat{j} - \frac{\partial f_3}{\partial x} - \frac{\partial f_1}{\partial z} \hat{j}$ $+ \frac{\partial f_2}{\partial x} - \frac{\partial f_1}{\partial y} \hat{k}$ $= \frac{(1+1)\hat{i} - (bz^2 - 3z^2)\hat{j} + (6x - ax)\hat{k}}{6}$
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