



DOWNLOAD SOLVED FINAL

PAST PAPERS BY WAQAR SIDDHU

More in PDF From

VU Answer

Get All Solutions.

Use Wallis sine formula to evaluate $\int_0^{\frac{\pi}{2}} \sin^5 x \, dx$

Answer ([Please click here to Add Answer](#))

VuAnswers.com



Made by: Waqar Siddhu

Prove whether the following function is even, odd or neither.

$$f(x) = x^3 + x^2$$

Answer ([Please click here to Add Answer](#))

VuAnswers.com



Made by: Waqar Siddhu

Consider the point $\left(\frac{\sqrt{3}}{2}, \sqrt{3}, \frac{1}{2}\right)$ in rectangular coordinate system. Find the value of " ρ " in spherical coordinates.

Answer ([Please click here to Add Answer](#))

VuAnswers.com



Normal Arial 12 B I U

Made by: Waqar Siddhu

Write down the expression for the arc-length of the curve represented by the vector valued function $\vec{r}(t) = \cos t^2 \hat{i} + \sin t^2 \hat{j}$ where $0 \leq t \leq \frac{\pi}{2}$. (Do not evaluate the expression).

Answer ([Please click here to Add Answer](#))

VuAnswers.com



Made by: Waqar Siddhu

Use Wallis cosine formula to evaluate $\int_0^{\frac{\pi}{2}} (\cos^3 x + \cos^4 x) dx$

Answer ([Please click here to Add Answer](#))

VuAnswers.com



Normal Arial 12 B I U

Made by: Waqar Siddhu

Prove whether the following function is even, odd or neither.

$$f(x) = \sin^2 x \cos 3x$$

Answer ([Please click here to Add Answer](#))

VuAnswers.com



Made by: Waqar Siddhu

Find the region where the function $f(x, y) = \sqrt{9 - x^2 - y^2}$ is continuous.

Answer ([Please click here to Add Answer](#))

VuAnswers.com



Made by: Waqar Siddhu

What is the arc-length of the curve $\vec{r}(t) = (4 + 3t)\hat{i} + (2 - 2t)\hat{j}$ when $3 \leq t \leq 4$?

Answer ([Please click here to Add Answer](#))

VuAnswers.com



Made by: Waqar Siddhu

Determine the Fourier co-efficient b_n of the periodic function defined below:

$$f(x) = 2x + 1 \quad 0 < x < 2$$

Answer ([Please click here to Add Answer](#))

VuAnswers.com



Made by: Waqar Siddhu

Determine whether the following vector field \vec{F} is conservative or not.

$$\vec{F}(x, y, z) = (3x + y)\hat{i} + xy^2z\hat{j} + xz^2\hat{k}$$

Answer ([Please click here to Add Answer](#))

VuAnswers.com



Made by: Waqar Siddhu

Using second partial derivative test show that the function $f(x, y) = xy(24 - x - y)$ is maximum at $x = 8, y = 8$.

Answer ([Please click here to Add Answer](#))

VuAnswers.com



Made by: Waqar Siddhu

Let $\vec{r}(t) = t^2 \hat{i} + t \hat{j} + (t^2 - 5) \hat{k}$. Find t , such that $\vec{r}(t)$ and $\vec{r}'(t)$ are perpendicular to each other.

Answer (Please [click here](#) to Add Answer)

VuAnswers.com



Made by: Waqar Siddhu

Determine whether the following differential is exact or not.

$$dz = 4x^3y^3 dx + 3x^4y^2 dy$$

VuAnswers.com

Answer ([Please click here to Add Answer](#))



Made by: Waqar Siddhu

Evaluate

$$\int_{-x}^x \cos nx \, dx$$

where n is an integer other than zero.

Answer ([Please click here to Add Answer](#))

VuAnswers.com



Made by: Waqar Siddhu

Prove whether the following function is even, odd or neither.

$$f(x) = x^2 - 4 \sin x$$

Answer ([Please click here to Add Answer](#))

VuAnswers.com



Made by: Waqar Siddhu

Given $\vec{a} \times \vec{b} = 3xi + 2yj + zk$ and $\vec{c} = 7xi + 4yk$. Find scalar triple product of these vectors.

Answer ([Please click here to Add Answer](#))

VuAnswers.com



Made by: Waqar Siddhu

What is the arc-length of the curve $\vec{r}(t) = (4 + 3t)\hat{i} + (2 - 2t)\hat{j} + (5 + t)\hat{k}$ when $3 \leq t \leq 4$?

Answer ([Please click here to Add Answer](#))

VuAnswers.com



Made by: Waqar Siddhu

Find $\text{div } \vec{F}$, if $\vec{F} = (3x+y)\hat{i} + xy^2z\hat{j} + (xz^2)\hat{k}$

VuAnswers.com

Answer (Please [click here](#) to Add Answer)



Made by: Waqar Siddhu

Determine the Fourier co-efficient a_0 of the periodic function defined below:

$$f(x) = 2x + 1 \quad 0 < x < 2$$

VuAnswers.com

Answer ([Please click here to Add Answer](#))



Made by: Waqar Siddhu

A line, in three dimensional space, passes through the point $(3, -4, 2)$ and parallel to the vector $\vec{n} = 4\hat{i} + 3\hat{j} + 6\hat{k}$. Write down the equation of this line in parametric and symmetric form.

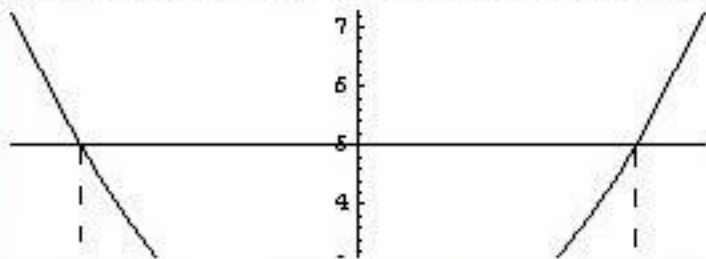
Answer ([Please click here to Add Answer](#))

VuAnswers.com



Made by: Waqar Siddhu

Using definite integral, find area of the region bounded by the curves of $y = x^2 + 1$ and $y = 5$



Answer ([Please click here to Add Answer](#))

VuAnswers.com



Normal Arial 12 B I U

Made by: Waqar Siddhu

Show that Laplace transform of the function

$$f(t) = 1 \quad \text{is}$$

$\frac{1}{s}$ where s is a constant for the integration and $s > 0$.

VuAnswers.com

Answer ([Please click here to Add Answer](#))



Made by: Waqar Siddhu

Determine whether the following vector field \vec{F} is conservative or not.

$$\vec{F}(x, y, z) = (4x - z)\hat{i} + (3y + z)\hat{j} + (y - x)\hat{k}$$

VuAnswers.com

Answer ([Please click here to Add Answer](#))



Made by: Waqar Siddhu

Consider the point $(-5, 5, 6)$ in rectangular coordinate system. Convert it into Spherical coordinates.

VuAnswers.com

Answer ([Please click here to Add Answer](#))



Made by: Waqar Siddhu

Use Wallis cosine formula to evaluate $\int_0^{\frac{\pi}{2}} \cos^6 x \, dx$

Answer ([Please click here to Add Answer](#))

VuAnswers.com



Normal Arial 12 B I U

Made by: Waqar Siddhu

Prove whether the following function is even, odd or neither.

$$f(x) = x^3 + x^2$$

Answer ([Please click here to Add Answer](#))

VuAnswers.com



Normal Arial 12 B I U

Made by: Waqar Siddhu

Let $f(x, y) = \tan^{-1} \frac{y}{x} - y^2 \tan^{-1} \frac{x}{y}$. Is the function defined at (1, 1)? If yes, what is its value and if no, give the reason.

Answer ([Please click here to Add Answer](#))

VuAnswers.com



Made by: Waqar Siddhu

Evaluate the following limit.

$$\lim_{t \rightarrow \frac{\pi}{4}} \left[(\cos t)\hat{i} + (\sin t)\hat{j} \right]$$

Answer ([Please click here to Add Answer](#))

VuAnswers.com



Normal Arial 12 B I U

Made by: Waqar Siddhu

Determine the fourier co-efficient a_0 , of periodic function defined by

$$f(x) = x \quad 0 < x < 1$$

Answer ([Please click here to Add Answer](#))

VuAnswers.com



Normal Arial 12 B I U

Made by: Waqar Siddhu

Use Wallis sine formula to evaluate $\int_0^{\frac{\pi}{2}} (\sin^3 x + \sin^4 x) dx$

Answer ([Please click here to Add Answer](#))

VuAnswers.com



Normal Arial 12 B I U

Made by: Waqar Siddhu

If the order of integration for the integral $\int_0^2 \int_{y^3}^4 y \cos x^2 dx dy$ is changed. Find the change in the limits of new integral.

Answer ([Please click here to Add Answer](#))

VuAnswers.com



Normal Arial 12 B I U

Made by: Waqar Siddhu

What is the arc-length of the curve $\vec{r}(t) = 3\cos t \hat{i} + 3\sin t \hat{j}$ when $0 \leq t \leq 2\pi$?

Answer ([Please click here to Add Answer](#))

VuAnswers.com



Normal Arial 12 B I U

Made by: Waqar Siddhu

Consider a periodic function defined by

$$f(x) = 3x \quad -\pi \leq x \leq \pi$$

- (i) Find whether the given function is even or odd?
- (ii) Determine Fourier Co-efficients a_0 , a_n and b_n

Answer ([Please click here to Add Answer](#))

VuAnswers.com



A rich text editor toolbar with various icons for file operations (New, Open, Save, Print, Find), editing (Cut, Copy, Paste), undo/redo, and formatting (Bold, Italic, Underline, Bulleted List, Numbered List, Indent, Outdent, Link, Unlink). The font is set to Arial, size 12, and zoom is 100%.

Made by: Waqar Siddhu

Determine whether the following vector field \vec{F} is conservative or not.

$$\vec{F}(x, y, z) = (3x + y)\hat{i} + xy^2z\hat{j} + xz^2\hat{k}$$

Answer ([Please click here to Add Answer](#))

VuAnswers.com



Normal Arial 12 B I U

Made by: Waqar Siddhu

Find Equation of a Tangent plane to the surface $f(x, y, z) = x^2 + 3y + z^3 - 9$ at the point $(2, -1, 2)$

Answer ([Please click here to Add Answer](#))

VuAnswers.com



Made by: Waqar Siddhu

Let $\vec{r}(t) = t^2 \hat{i} + t \hat{j} + (t^2 - 5) \hat{k}$. Find t, such that $\vec{r}(t)$ and $\vec{r}'(t)$ are perpendicular to each other.

Answer ([Please click here to Add Answer](#))

VuAnswers.com



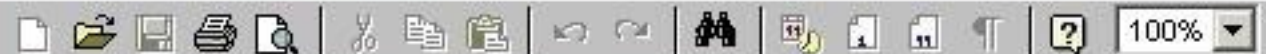
Normal Arial 12 B I U

Made by: Waqar Siddhu

Use Wallis sine formula to evaluate $\int_0^{\frac{\pi}{2}} \sin^5 x \, dx$

Answer ([Please click here to Add Answer](#))

VuAnswers.com



Normal Arial 12 B I U

Made by: Waqar Siddhu

Find Laplace transform of the function $F(t)$ if $F(t) = \cos 3t$.

Answer ([Please click here to Add Answer](#))

VuAnswers.com



Made by: Waqar Siddhu

State the condition when $\iint_R f(x, y) dA = \int_c^b \int_a^d f(x, y) dx dy = \int_a^d \int_c^b f(x, y) dy dx$ where R is the region of integration.

Answer ([Please click here to Add Answer](#))

VuAnswers.com



Normal Arial 12 B I U

Made by: Waqar Siddhu

Find derivative of the following vector-valued function.

$$\vec{r}(t) = e^{t^2} \hat{i} + t^2 \hat{j} + \sec 2t \hat{k}$$

Answer ([Please click here to Add Answer](#))

VuAnswers.com



Made by: Waqar Siddhu

Use Wallis sine formula to evaluate $\int_0^{\frac{\pi}{2}} (\sin^3 x + \sin^4 x) dx$

Answer ([Please click here to Add Answer](#))

VuAnswers.com



Normal Arial 12 B I U

Made by: Waqar Siddhu

Find Laplace transform of the function $F(t)$ if

$$F(t) = e^{2t} \sin 3t$$

Answer ([Please click here to Add Answer](#))

VuAnswers.com



Normal Arial 12 B I U

Made by: Waqar Siddhu

Find the critical point for the given function $f(x, y) = 6x^2 + xy - 2y^2$ along the line $y = 3x + 1$ at which the absolute extrema of the function can occur.

Answer ([Please click here to Add Answer](#))

VuAnswers.com



Made by: Waqar Siddhu

What is the arc-length of the curve $\vec{r}(t) = 3\cos t \hat{i} + 3\sin t \hat{j}$ when $0 \leq t \leq 2\pi$?

Answer ([Please click here to Add Answer](#))

VuAnswers.com



Normal Arial 12 B I U

Made by: Waqar Siddhu

Determine the Fourier co-efficient b_n of the periodic function defined below:

$$f(x) = 2x + 1 \quad 0 < x < 2$$

Answer ([Please click here to Add Answer](#))

VuAnswers.com



Normal Arial 12 B I U

Made by: Waqar Siddhu

Determine whether the following vector field \vec{F} is conservative or not.

$$\vec{F}(x, y, z) = x^2z \hat{i} + y^2x \hat{j} + (y + 2z) \hat{k}$$

Answer ([Please click here to Add Answer](#))

VuAnswers.com



Made by: Waqar Siddhu

If $f(x, y) = (x - 4) \ln(xy)$

Find both first order partial derivatives.

Answer ([Please click here to Add Answer](#))

VuAnswers.com



Normal Arial 12 B I U

Made by: Waqar Siddhu

Let $\vec{r}(t) = t^2 \hat{i} + t \hat{j} + (t^2 - 5) \hat{k}$. Find t, such that $\vec{r}(t)$ and $\vec{r}'(t)$ are perpendicular to each other.

Answer ([Please click here to Add Answer](#))

VuAnswers.com



Normal Arial 12 B I U

Made by: Waqar Siddhu

MORE PAST PAPERS BY WAQAR SIDDHU

Provide Solved in PDF From

VU Answer

Get All Solutions.

