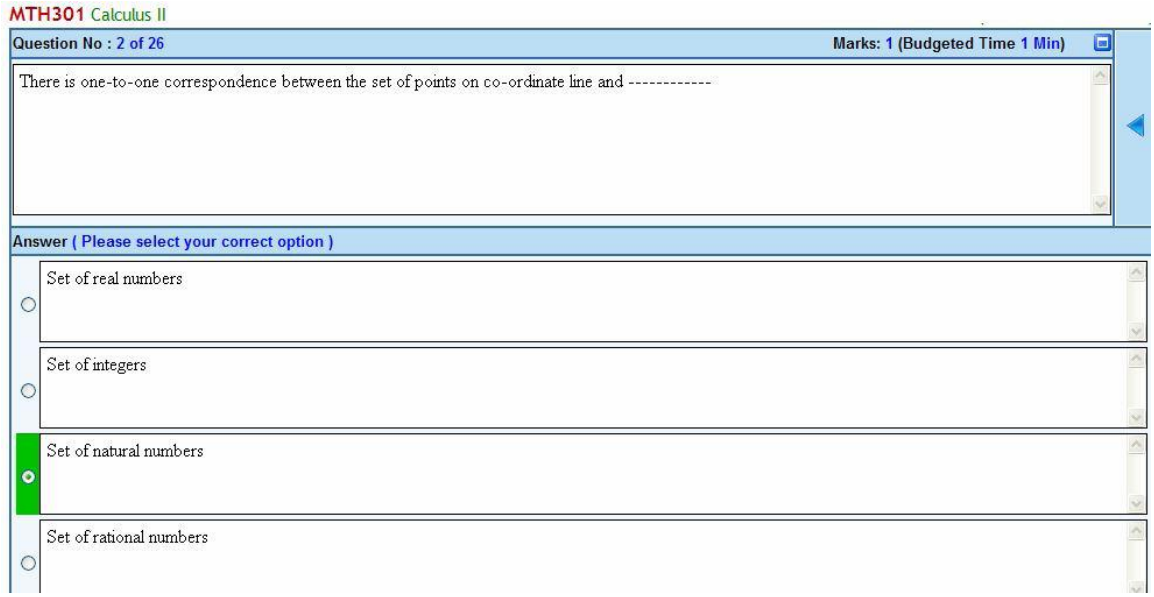
That all is collected by removing the mistakes of the one paper file, hope it helpful…!



In that the answer is "unique point"



In that the correct answer is the "Set of Real Numbers".

MTH301 Calculus II

Question No : 3 of 26 Marks: 1 (Budgeted Time 1 Min)

Which of the following is associated to each point of three dimensional space?

Answer (Please select your correct option)

- A real number
- An ordered pair
- An ordered triple
- A natural number

In this the exact answer is "an ordered triple".

MTH301 Calculus II

Question No : 4 of 26 Marks: 1 (Budgeted Time 1 Min)

All axes are positive in ---------- octant.

Answer (Please select your correct option)

- First
- Second
- Fourth
- Eighth

It's right

MTH301 Calculus II

Question No : 5 of 26 Marks: 1 (Budgeted Time 1 Min)

The spherical co-ordinates of a point are $\left(\sqrt{3}, \frac{\pi}{3}, \frac{\pi}{2}\right)$. What are its cylinderical co-ordinates?

Answer (Please select your correct option)

- $\left(\frac{\sqrt{3}}{2}, \frac{3}{2}, 0\right)$
- $\left(\sqrt{3}\cos\frac{\pi}{3}, \sqrt{3}\sin\frac{\pi}{3}, 0\right)$
- $\left(\sqrt{3}\sin\frac{\pi}{3}, \frac{\pi}{2}, \sqrt{3}\cos\frac{\pi}{3}\right)$
- $\left(\sqrt{3}, \frac{\pi}{3}, 0\right)$

This one is also wrong as the answer is "4th one".because the central point of spherical is pie/3 that should be same in cylindrical so, that's only occur in last one...

MTH301 Calculus II

Question No : 6 of 26 Marks: 1 (Budgeted Time 1 Min)

Suppose $f(x, y) = xy - 2y^2$ *where* $x = 3t + 1$ *and* $y = 2t$. Which one of the following is true?

Answer (Please select your correct option)

- $\frac{df}{dt} = -4t + 2$
- $\frac{df}{dt} = -16t - t$
- $\frac{df}{dt} = 18t + 2$
- $\frac{df}{dt} = -10t^2 + 8t + 1$

That's right

MTH301 Calculus II

Question No : 7 of 26 Marks: 1 (Budgeted Time 1 Min)

Let $w = f(x, y, z)$ and $x = g(r, s)$, $y = h(r, s)$, $z = t(r, s)$ then by chain rule

$\frac{\partial w}{\partial r} =$

Answer (Please select your correct option)

- $\frac{\partial w}{\partial x}\frac{\partial x}{\partial r} + \frac{\partial w}{\partial y}\frac{\partial y}{\partial r} + \frac{\partial w}{\partial z}\frac{\partial z}{\partial r}$
- $\frac{\partial w}{\partial r}\frac{\partial x}{\partial r} + \frac{\partial w}{\partial r}\frac{\partial y}{\partial r} + \frac{\partial w}{\partial r}\frac{\partial z}{\partial r}$
- $\frac{\partial w}{\partial x}\frac{\partial x}{\partial r}\frac{\partial x}{\partial s} + \frac{\partial w}{\partial y}\frac{\partial y}{\partial r}\frac{\partial y}{\partial s} + \frac{\partial w}{\partial z}\frac{\partial z}{\partial r}\frac{\partial z}{\partial s}$
- $\frac{\partial w}{\partial r}\frac{\partial r}{\partial x} + \frac{\partial w}{\partial r}\frac{\partial r}{\partial y} + \frac{\partial w}{\partial r}\frac{\partial r}{\partial z}$

Here's answer is the "2nd" one...!

MTH301 Calculus II

Question No : 8 of 26 Marks: 1 (Budgeted Time 1 Min)

Magnitude of vector $\vec{a}$ is 2, magnitude of vector $\vec{b}$ is 3 and angle between them when placed tail to tail is 45 degrees. What is $\vec{a} \cdot \vec{b}$?

Answer (Please select your correct option)

- 4.5
- 6.2
- 5.1
- 4.2

That can't say exactly guys, its formula is following...!

a.b = |a||b| cosØ

Ø=angle between the vectors

MTH301 Calculus II

Question No : 9 of 26 Marks: 1 (Budgeted Time 1 Min)

Is the function $f(x, y)$ continuous at origin? If not, why?

$$f(x, y) = \begin{cases} 0 & \text{If } x \geq 0 \text{ and } y \geq 0 \\ 1 & \text{Otherwise} \end{cases}$$

Answer (Please select your correct option)

- $f(x, y)$ is continuous at origin
- $f(0, 0)$ is not defined
- $f(0, 0)$ is defined but $\lim_{(x,y)\to(0,0)} f(x, y)$ does not exist
- $f(0, 0)$ is defined and $\lim_{(x,y)\to(0,0)} f(x, y)$ exists but these two numbers are not equal.

That's correct answer...!

MTH301 Calculus II

Question No : 10 of 26 Marks: 1 (Budgeted Time 1 Min)

Is the function $f(x, y)$ continuous at origin? If not, why?

$$f(x, y) = \begin{cases} \frac{3x^2y}{x^2+y^2} & \text{if } (x, y) \neq 0 \\ 0 & \text{if } (x, y) = 0 \end{cases}$$

Answer (Please select your correct option)

- $f(x, y)$ is continuous at origin
- $f(0, 0)$ is not defined
- $f(0, 0)$ is defined but $\lim_{(x,y)\to(0,0)} f(x, y)$ does not exist
- $f(0, 0)$ is defined and $\lim_{(x,y)\to(0,0)} f(x, y)$ exists but these two numbers are not equal.

But that's wrong the correc one is the 1st..

MTH301 Calculus II

Question No : 11 of 26 Marks: 1 (Budgeted Time 1 Min)

Let R be a closed region in two dimensional space. What does the double integral over R calculates?

Answer (Please select your correct option)

- Area of R.
- Radius of inscribed circle in R.
- Distance between two endpoints of R.
- None of these

That's the first answer, as that was been define in the lecture 22…!

MTH301 Calculus II

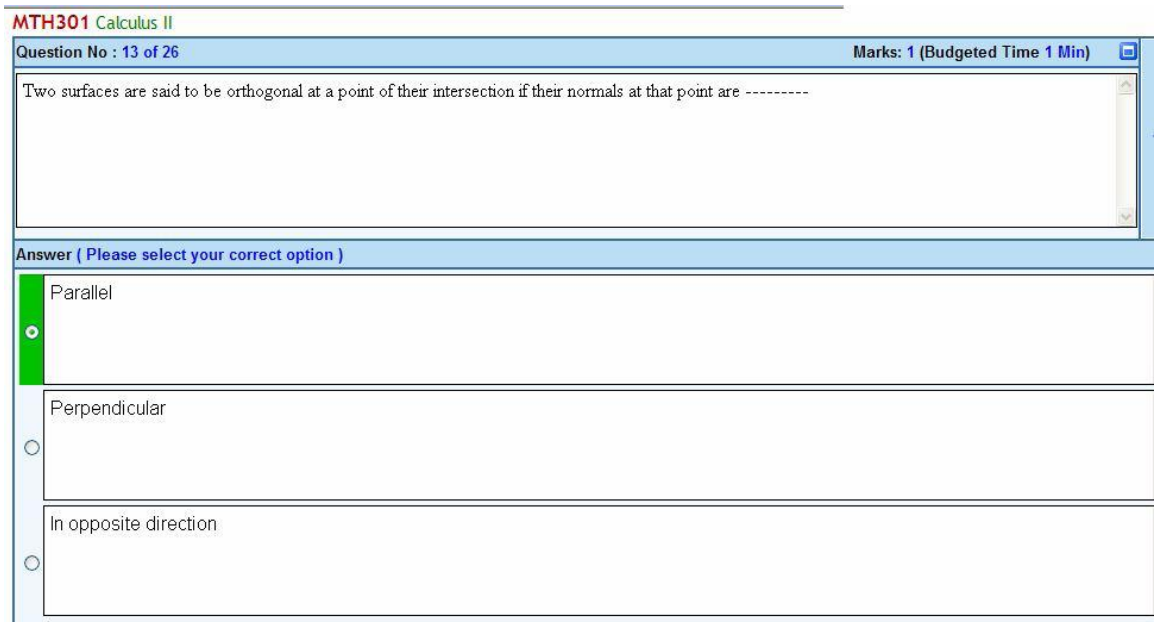
Question No : 12 of 26 Marks: 1 (Budgeted Time 1 Min)

Which of the following formula can be used to find the Volume of a parallelepiped with adjacent edges formed by the vectors $\bar{a}$, $\bar{b}$ *and* $\bar{c}$?

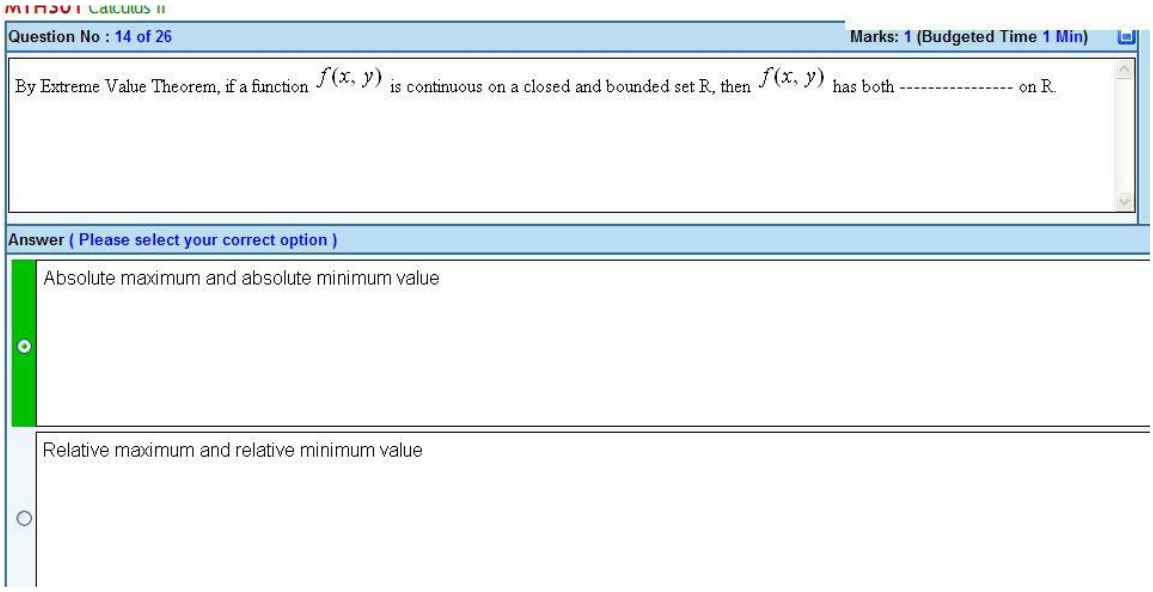
Answer (Please select your correct option)

- $\left|\bar{a} \times (\bar{b} \times \bar{c})\right|$
- $\left|\bar{a} \bullet (\bar{b} \bullet \bar{c})\right|$
- $\left|\bar{a} \bullet (\bar{b} \times \bar{c})\right|$
- $\left|\bar{a} \times (\bar{b} \bullet \bar{c})\right|$

Here's the answer is the last one, you can check that on the start of lecture 11th, handout…!



Its answer is the "perpendicular"...!



That's right answer...!

MTH301 Calculus II

Question No : 15 of 26 Marks: 1 (Budgeted Time 1 Min)

Let the function $f(x, y)$ has continuous second-order partial derivatives $(f_{xx}, f_{yy} \text{ and } f_{xy})$ in some circle centered at a critical point (x_0, y_0) and let $D = f_{xx}(x_0, y_0)\, f_{yy}(x_0, y_0) - f_{xy}^2(x_0, y_0)$

If $D > 0$ and $f_{xx}(x_0, y_0) < 0$ then f has ----------

Answer (Please select your correct option)

- Relative maximum at (x_0, y_0)
- Relative minimum at (x_0, y_0)
- Saddle point at (x_0, y_0)
- No conclusion can be drawn.

This is also right one..!

MTH301 Calculus II

Question No : 16 of 26 Marks: 1 (Budgeted Time 1 Min)

Let the function $f(x, y)$ has continuous second-order partial derivatives $(f_{xx}, f_{yy} \text{ and } f_{xy})$ in some circle centered at a critical point (x_0, y_0) and let $D = f_{xx}(x_0, y_0)\, f_{yy}(x_0, y_0) - f_{xy}^2(x_0, y_0)$

If $D = 0$ then ----------

Answer (Please select your correct option)

- f has relative maximum at (x_0, y_0)
- f has relative minimum at (x_0, y_0)
- f has saddle point at (x_0, y_0)
- No conclusion can be drawn.

"No conclusion can be drawn" is the answere...!

MTH301 Calculus II

Question No : 17 of 26 Marks: 1 (Budgeted Time 1 Min)

If $R = R_1 \cup R_2$, where R_1 and R_2 are no overlapping regions then

$$\iint_{R_1} f(x,y)dA + \iint_{R_2} f(x,y)dA =$$

Answer (Please select your correct option)

- $\iint_{R} f(x,y)dA$
- $\iint_{R_1} f(x,y)dA \cup \iint_{R_2} f(x,y)dA$
- $\iiint_{R} f(x,y)dV$
- $\iint_{R_1} f(x,y)dA \cap \iint_{R_2} f(x,y)dA$

Its answer is the first one option…!

MTH301 Calculus II

Question No : 18 of 26 Marks: 1 (Budgeted Time 1 Min)

If $R = \{(x,y) / 0 \le x \le 2 \text{ and } 1 \le y \le 4\}$, then

$$\iint_{R} (6x^2 + 4xy^3)dA =$$

Answer (Please select your correct option)

- $\int_{1}^{4}\int_{0}^{2} (6x^2 + 4xy^3)dydx$
- $\int_{0}^{2}\int_{1}^{4} (6x^2 + 4xy^3)dxdy$
- $\int_{1}^{4}\int_{0}^{2} (6x^2 + 4xy^3)dxdy$
- $\int_{2}^{4}\int_{0}^{1} (6x^2 + 4xy^3)dxdy$

Its answer is the 3rd option guys..!

MTH301 Calculus II

Question No : 19 of 26 Marks: 1 (Budgeted Time 1 Min)

If $R = \{(x,y) / 2 \le x \le 4 \text{ and } 0 \le y \le 1\}$, then

$\iint_R (4xe^{2y})dA =$

Answer (Please select your correct option)

- $\int_0^1 \int_2^4 (4xe^{2y})dydx$
- $\int_0^1 \int_2^4 (4xe^{2y})dxdy$
- $\int_1^4 \int_0^2 (4xe^{2y})dxdy$
- $\int_1^4 \int_0^2 (4xe^{2y})dydx$

It's right one...!

MTH301 Calculus II

Question No : 20 of 26 Marks: 1 (Budgeted Time 1 Min)

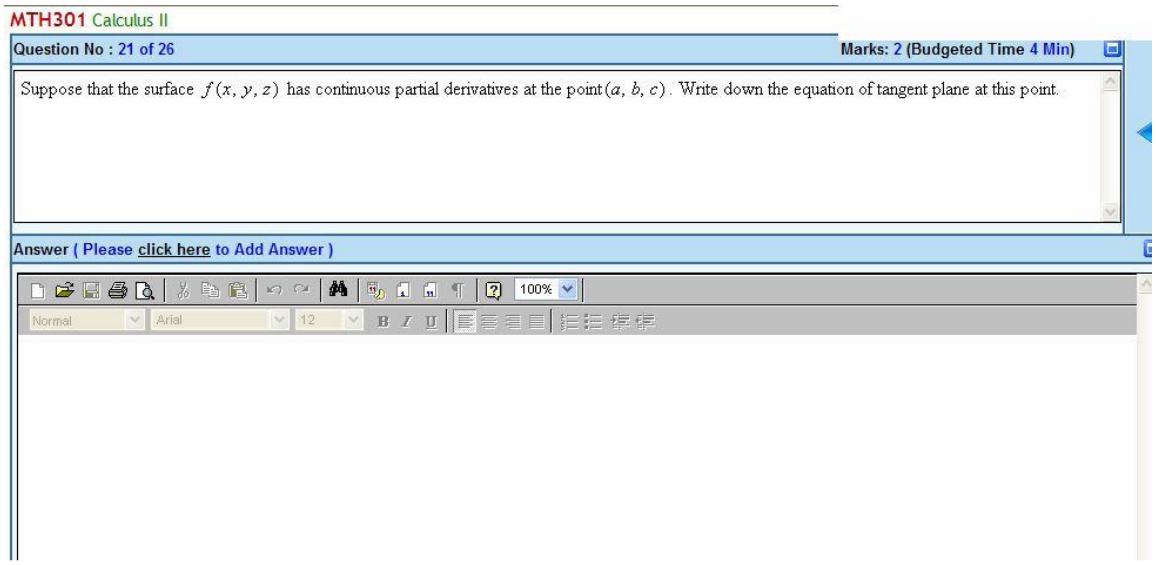
If $R = \{(x,y) / 0 \le x \le 4 \text{ and } 0 \le y \le 9\}$, then

$\iint_R (3x - 4x\sqrt{xy})dA =$

Answer (Please select your correct option)

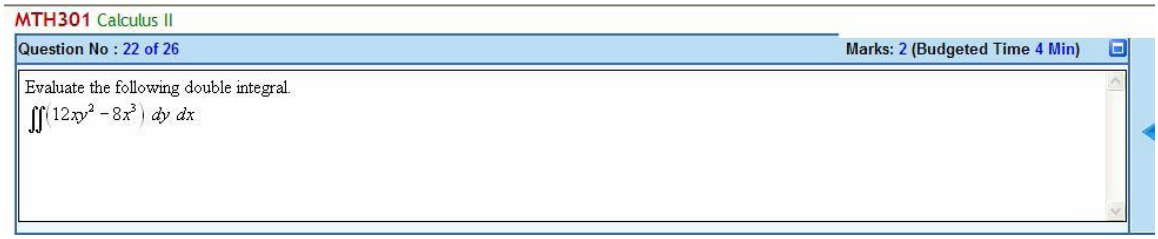
- $\int_0^9 \int_0^4 (3x - 4x\sqrt{xy})dydx$
- $\int_0^4 \int_4^9 (3x - 4x\sqrt{xy})dxdy$
- $\int_4^9 \int_0^0 (3x - 4x\sqrt{xy})dxdy$
- $\int_0^4 \int_0^9 (3x - 4x\sqrt{xy})dydx$

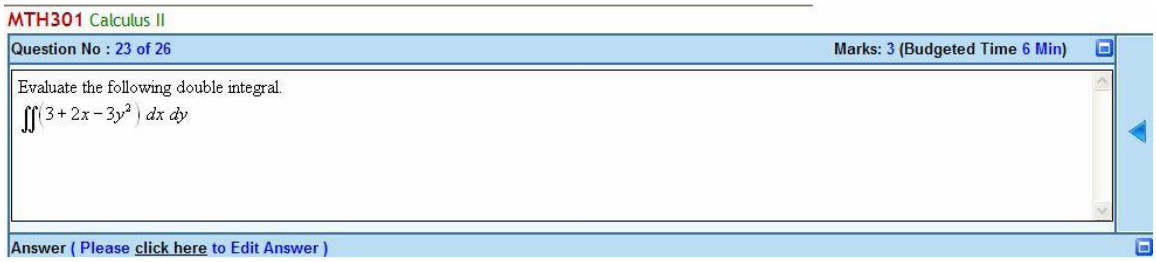
This one's also right...



Its equation is

$$f_x(a)(x-x_0)+f_y(b)(y-y_0)+f_z(c)(z-z_0)=0$$





These both can be solve by the following example the me gonna paste...!

Evaluate the following double integral.

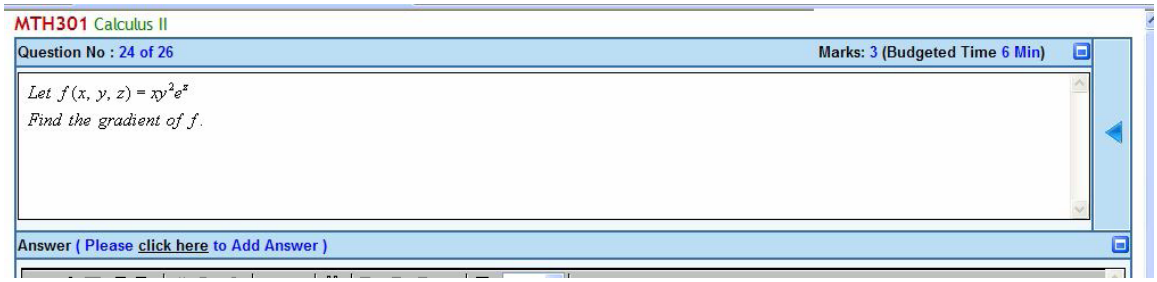
$$\iint\left(3+2x-3y^2\right)dx\,dy$$

Solution:

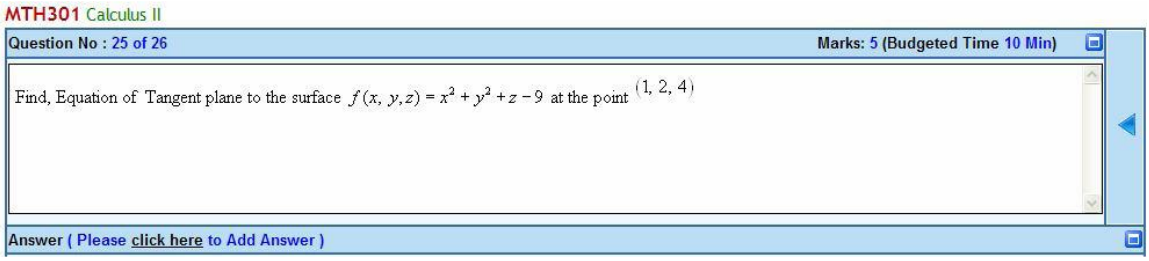
$$\iint \left(3+2x-3y^2\right)\, dx\, dy$$

$$\int (3x+2x^2-3xy^2)dy$$

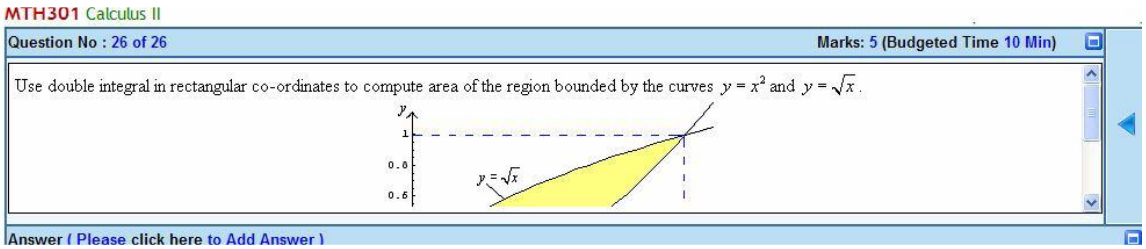
$$3xy+2x^2y-xy^3$$



I didn't got this question dear's...! :(



You can use the above tangent equation to sove this...!



Its answer is the under mentioned...!

as our require is area of the following region

$V = \iint_R 1 dA = \iint_R dA$ we can compute area by keeping f(x,y) const

$= \int_0^1 \int_{x^2}^{x} dy dx$

$= \int_0^1 [x]_{x^2}^{x}$

$= \int_0^1 (x - x^2)$

$= [\frac{x^2}{2} - \frac{x^3}{3}]_0^1$

$= \left[\frac{1}{2} - \frac{1}{3}\right]$

$= \left[\frac{3-2}{6}\right]$

$= \frac{1}{6}$ that's exactly what we require...!

Jis bahi nay yeh create ki file us ko bhi aur muj(Zaheer Abbas) ko bhi jis nay uplode ki, dono ko apni doiaon main zaror yad rakhna. Allah Tiala hum sub ki her tarah say madad farmay. (Aameen)