



tanz



cotz



Question 19

1

. If
$$u = x-y$$
, $v = xy$ then $\frac{\partial(u,v)}{\partial(x,y)} =$

Hide answer choices ^



х-у



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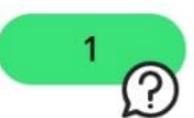


y-x



x+y



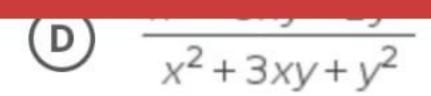














Question 21

If u is a homogeneous function of degree n then $x^2u_{xx} + y^2u_{yy} + 2xyu_{xy} =$

Hide answer choices ^

- n(n-1)u
- n(n-1)
- None



If
$$u = x^2 + y^2$$
, $x = s + 3t$, $y = 2s - t$, then $\frac{du}{dt}$















Question 22

If
$$u = x^2 + y^2$$
, $x = s + 3t$, $y = 2s - t$, then $\frac{du}{dt}$

Hide answer choices ^

- None



Question 23

Multiple integral is used to find the













Question 18

If
$$u = \sin^{-1}[\sqrt{(x^2 + y^2)/(x + y)}]_{\text{then}}$$

$$x \frac{\partial u}{\partial x} + y \frac{\partial u}{\partial y} =$$

Hide answer choices ^

- sinz
- cotz



Question 19

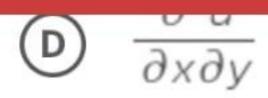
 $\partial(u,v)$













Question 14

If
$$u = \sin^{-1}\left(\frac{x^2 + y^2}{x + y}\right)$$
 then $x \frac{\partial u}{\partial x} + y \frac{\partial u}{\partial y} =$

Hide answer choices ^

- sin u
- sin⁻¹u
- tan⁻¹u



$$z = \log \frac{x^4 + y^4}{x^4 + y^4} + \frac{\partial z}{\partial z} + \frac{\partial z}{\partial z} =$$











$$\bigcirc$$
 $-x^3$

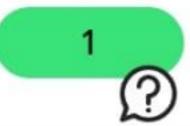


Question 12

lf $x = r\cos\theta \& y = r\sin\theta \text{ then } \frac{\partial(x,y)}{\partial(r,\theta)} \text{ is equal to}$

Hide answer choices ^









- None



Question 8

If
$$x = r \cos \theta$$
, $y = r \sin \theta$ then

Hide answer choices ^

- J J'=-1



If
$$u = \tan^{-1}\left(\frac{x}{u}\right)$$
 then $\frac{\partial^2 u}{\partial u \partial u}$ is equal ?











None



Question 17

If
$$u = \sin^{-1}(x/y) + \tan^{-1}(y/x)$$
 then

$$x \frac{\partial u}{\partial x} + y \frac{\partial u}{\partial y} =$$

Hide answer choices ^

- None



If
$$u = \sin^{-1}[\sqrt{(x^2 + y^2)/(x + y)}]_{then}$$

 $\partial u \qquad \partial u$

















Question 45

Which of the following statement is true?

$$\int_0^1 \int_0^3 (x+5) dy dx = \int_0^3 \int_0^1 (x+5) dx dy$$

B
$$\int_0^1 \int_0^3 (x+5) \, dy \, dx = \int_0^3 \int_0^1 (x+5) \, dr \, dy$$

$$\int_0^1 \int_0^3 (x+5) dx dr = \int_0^3 \int_0^1 (x+5) dr dy$$













Question 10

If
$$u = f(r)$$
 and $r = \sqrt{x^2 + y^2}$ then $\frac{\partial u}{\partial x} =$

Hide answer choices ^

$$\mathbf{B} \quad f'(r) \frac{x}{r}$$

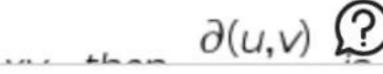
$$(c)$$
 $rf'(r)$

















Question 4

If
$$z = f(x,y)$$
, $x = \emptyset(t)$, $y = \psi(t)$ then $dz/dt =$

Hide answer choices ^

$$\frac{\partial z}{\partial x} \frac{dx}{dt} + \frac{\partial z}{\partial y} \frac{dy}{dt}$$

$$\bigcirc \frac{\partial z}{\partial x} + \frac{\partial z}{\partial y} \frac{dy}{dt}$$



If
$$u = xyf\left(\frac{y}{x}\right)$$
 then $x\frac{\partial u}{\partial x} + y\frac{\partial u}{\partial y} =$

then
$$x = \frac{c}{c}$$

$$+y\frac{\partial u}{\partial v} =$$













Question 35

1

The necessary condition for the maclaurin expansion to be true for function f(x) is

Hide answer choices ^

- A f(x) should be continuous
- **B** f(x) should be differentiable
- (c) f(x) should exists at every point
- f(x) should be continuous and differentiable











10



None



Question 34

0

To expand $x^2 + 2xy + y^3$ in powers of x-4 and y+2 by Taylor's theorem the values of h and k are (respectively)

Hide answer choices ^

- (A)
 - 4, 2
- **B** 4, -2
- **C** -4, 2
- D None















1

The triple integral $\int \int \int dx \, dy \, dz$ over R

taken over proper limits gives

Hide answer choices ^

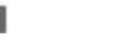
- A Volume of the region R
- B Area of the region R
- C Density of the region R



1

$$\int_0^1 \int_0^1 \frac{dxdy}{\sqrt{2}} =$$











None



Question 27

$$\int_0^{\frac{\pi}{2}} \left(\int_0^{a\cos\theta} r \sqrt{a^2 - r^2} \, dr \right) d\theta =$$

A
$$\frac{a^3}{18}(3\pi - 4)$$

B
$$\frac{a^2}{9}(3\pi - 4)$$

$$\frac{a^3}{18}(3-4\pi)$$















Question 6

1

$$u = F(y-z, z-x, x-y)$$
 then $\frac{\partial u}{\partial x} + \frac{\partial u}{\partial y} + \frac{\partial u}{\partial z}$ is equal to

Hide answer choices ^

- (A) 1
- (B) 2
- (C) 3
- **D** 0



Question 7

1

$$\frac{\sqrt{x} - \sqrt{y}}{\sqrt{x} + \sqrt{y}}$$
 is homogeneous function of degree

is













If x = uv, $y = \frac{u}{v}$ then $\frac{\partial(x,y)}{\partial(u,v)}$

Hide answer choices ^



- -2v/u
- None



Question 17

If $u = \sin^{-1}(x/y) + \tan^{-1}(y/x)$ then











Question 13

l

If

$$u = f(x + at) + g(x - at)$$
 then $\frac{\partial^2 u}{\partial t^2}$ is equal to

$$\mathbf{C} \quad a^2 \frac{\partial^2 u}{\partial x^2}$$









Question 1

ı

If
$$u = x^3 + y^3$$
 then $\frac{\partial^2 u}{\partial x \partial y}$ is

Hide answer choices ^

- A) 3
- **B** -3
- C 3x+3y
- **D** 0



Question 2

1

. What is the degree of homogeneous function

$$f(x,y) = \frac{x^{\frac{1}{3}} + y^{\frac{1}{3}}}{x^{\frac{1}{2}} + y^{\frac{1}{2}}}$$









Question 31

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

Hide answer choices ^



$$\int_0^1 \int_0^{\sqrt{1+x^2}} 1/(1+x^2+y^2) \ dxdy =$$













None



Question 23

1

Multiple integral is used to find the

Hide answer choices ^

- (A) Area
- B Volume
- C Both
- D None



Question 24

The triple integral $\int \int \int dx \, dy \, dz$ over R

taken over proper limits gives







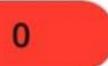




False



Question 37



Evaluate $\iint r^2 dr d\theta$ over the area included the $circle r = 2sin\theta and r = 4sin\theta$

Hide answer choices ^



$$\frac{5\pi}{2}$$

$$\frac{46\pi}{3}$$













Question 20

If
$$x^3 + 3x^2y + 6xy^2 + y^3 = 1_{then} \frac{dy}{dx}$$

$$\mathbf{B} - \frac{x^2 + 2xy + 2y^2}{x^2 + 4xy + y^2}$$











Question 15

1

If
$$z = \log \frac{x^4 + y^4}{x + y}$$
 then $x \frac{\partial z}{\partial x} + y \frac{\partial z}{\partial y} =$

Hide answer choices ^

- (A) 1
- (B) 2
- **C** 3
- (D) 4



Question 16

1

If
$$x = uv$$
, $y = \frac{u}{v}$ then $\frac{\partial(x,y)}{\partial(u,v)}$









- (c) 1/49
- D None



1

Find the coefficient of x^3 in the Taylor's series about x=0 for $f(x)=\sin 2x$

Hide answer choices ^

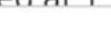
- (A) 2/3
- (B) 4/3
- **C** -4/3
- D 8/3



1

A Maclaurin series is said to be centered at 1













Question 9

If
$$u = \tan^{-1}\left(\frac{x}{y}\right)$$
 then $\frac{\partial^2 u}{\partial x \partial y}$ is equal to

A
$$\frac{x^2 - y^2}{x^2 + y^2}$$

$$\frac{2xy}{x^2 + y^2}$$















Question 30

0

Change of order of integration in

$$\int_0^1 \int_0^{\sqrt{1-x^2}} y^2 \, dx \, dy$$

$$\int_0^1 \int_0^{\sqrt{1-x^2}} y^2 \, dx \, dy$$









None



Question 33

$$\int_{0}^{\log x} \int_{0}^{\log y} e^{x+y} dxdy =$$

Hide answer choices ^

- None



Question 34

To expand $x^2 + 2xy + y^3$ in powers of x-4 an







Question 3

1

If
$$u = e^{ax + by}$$
 then $\frac{\partial^2 u}{\partial y \partial x}$ is

Hide answer choices ^

- (A) au
- (B) bu
- **C** abu
- D None



Question 4

1

If
$$z = f(x,y)$$
, $x = \emptyset(t)$, $y = \psi(t)$ then $dz/dt =$









Question 5

1

If
$$u = xyf\left(\frac{y}{x}\right)$$
 then $x\frac{\partial u}{\partial x} + y\frac{\partial u}{\partial y} =$

Hide answer choices ^

- (A) u
- **B** 2u
- (c) 3u
- (D) 4u



Question 6

1

$$u = F(y-z, z-x, x-y)$$
 then $\frac{\partial u}{\partial x} + \frac{\partial u}{\partial y} + \frac{\partial u}{\partial z}$ is equal to













Question 7

$$\frac{\sqrt{x} - \sqrt{y}}{\sqrt{x} + \sqrt{y}}$$
 is homogeneous function of degree

is

Hide answer choices ^



















Question 2

1

. What is the degree of homogeneous function

$$f(x,y) = \frac{x^{\frac{1}{3}} + y^{\frac{1}{3}}}{x^{\frac{1}{2}} + y^{\frac{1}{2}}}$$

Hide answer choices ^





Question 3

1

If
$$u = e^{ax + by}$$
 then $\frac{\partial^2 u}{\partial v \partial x}$ is











Question 29

1

Area enclosed by the curve $y^2 = x^3$ and y=x is

Hide answer choices ^

- A 1/20
- **B** 1/10
- C) 1/5
- (D) None



Question 30

0

Change of order of integration in

$$\int_{0}^{1} \int_{0}^{\sqrt{1-x^2}} y^2 \, dx \, dy$$











None



Question 32

$$\int_0^1 \int_0^{\sqrt{1+x^2}} 1/(1+x^2+y^2) dxdy =$$

Hide answer choices ^

$$\frac{\pi}{4}\log(\sqrt{2}+1)$$

$$\frac{\pi}{4}\log(\sqrt{3}+1)$$

$$\frac{\pi}{4}\log(\pi+1)$$











(C) Density of the region R



Question 25

$$\int_0^1 \int_0^1 \frac{dxdy}{\sqrt{(1-x^2)(1-y^2)}} =$$

Hide answer choices ^

$$(A)$$
 π^2

(B)
$$\pi^2/2$$

$$\frac{\pi^2}{4}$$















Question 28

Change of order of integration of

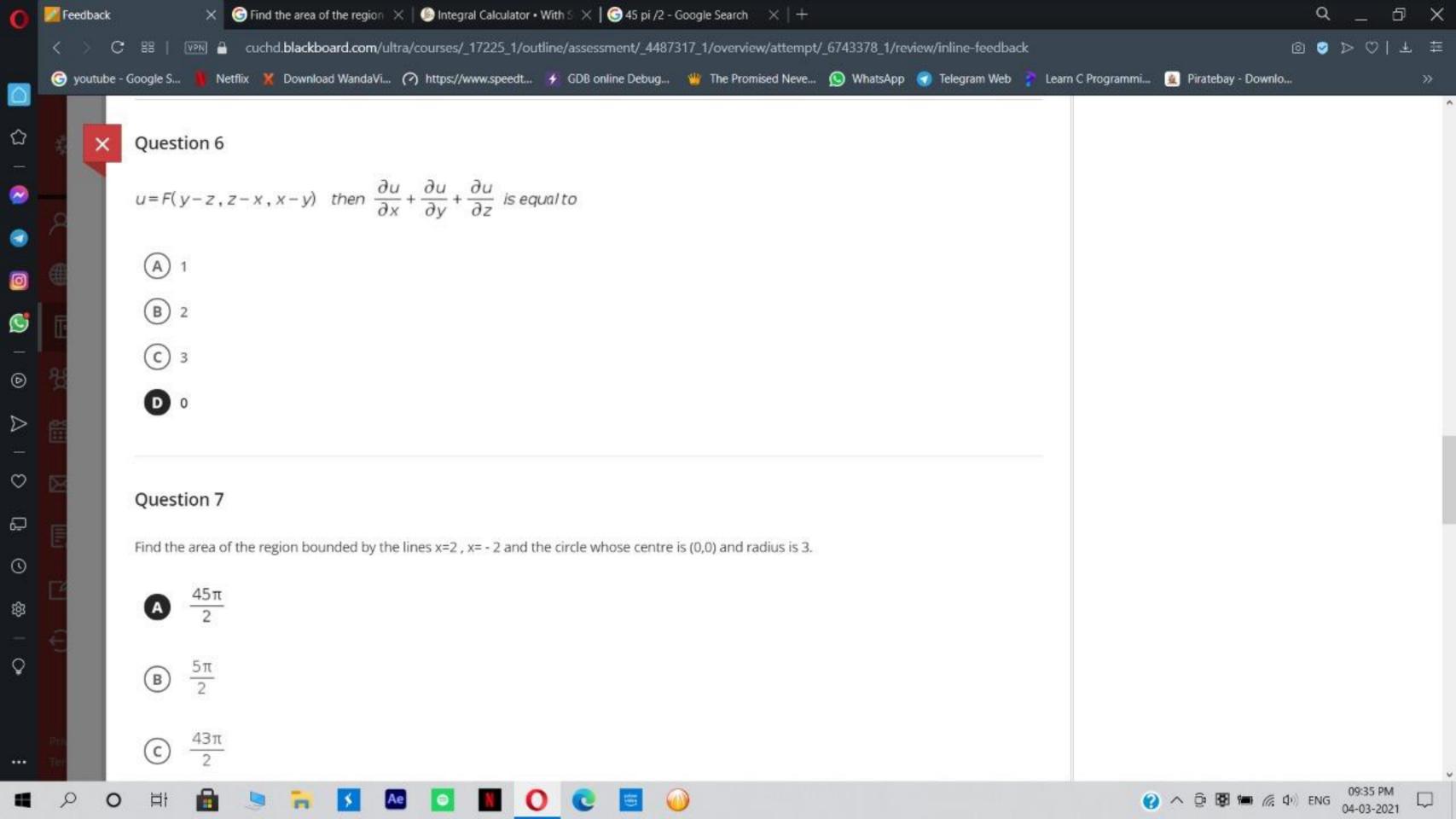
$$\int_0^a \int_y^a x/(x^2+y^2) \, dx dy_{is}$$

Hide answer choices ^













Question 11

Find the fifth non-zero term of the Maclaurin expansion of the exponential function $\ensuremath{\text{e}}^{\ensuremath{\text{x}}}$

$$B \frac{x^5}{5!}$$

$$C$$
 $\frac{x^4}{4!}$

Question 12

$$\int_{0}^{2} \int_{1}^{2} \int_{0}^{3} xyz \, dxdydz =$$



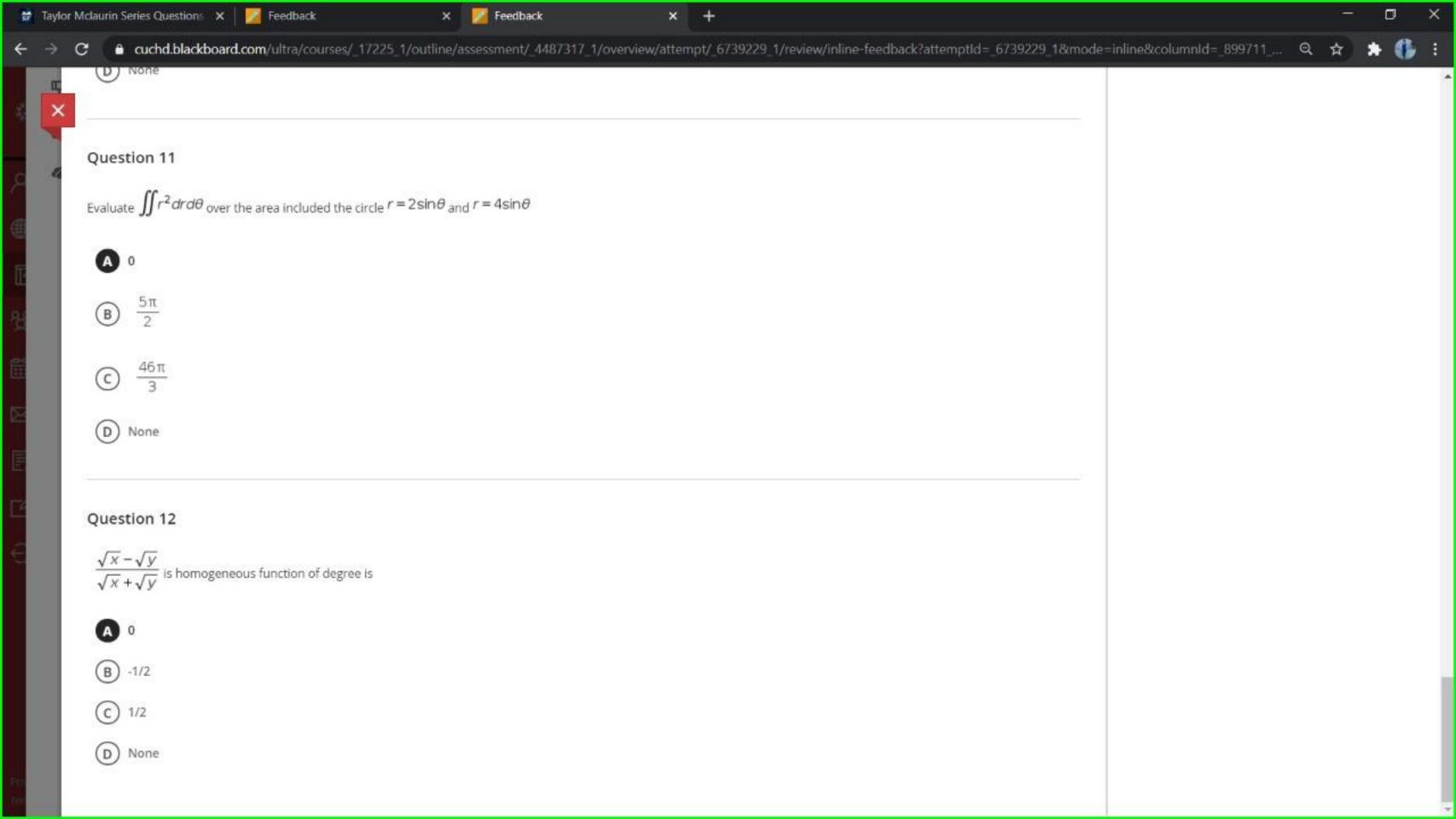
<

What is the antonym of the word foremost ?	
(A) hindmost	

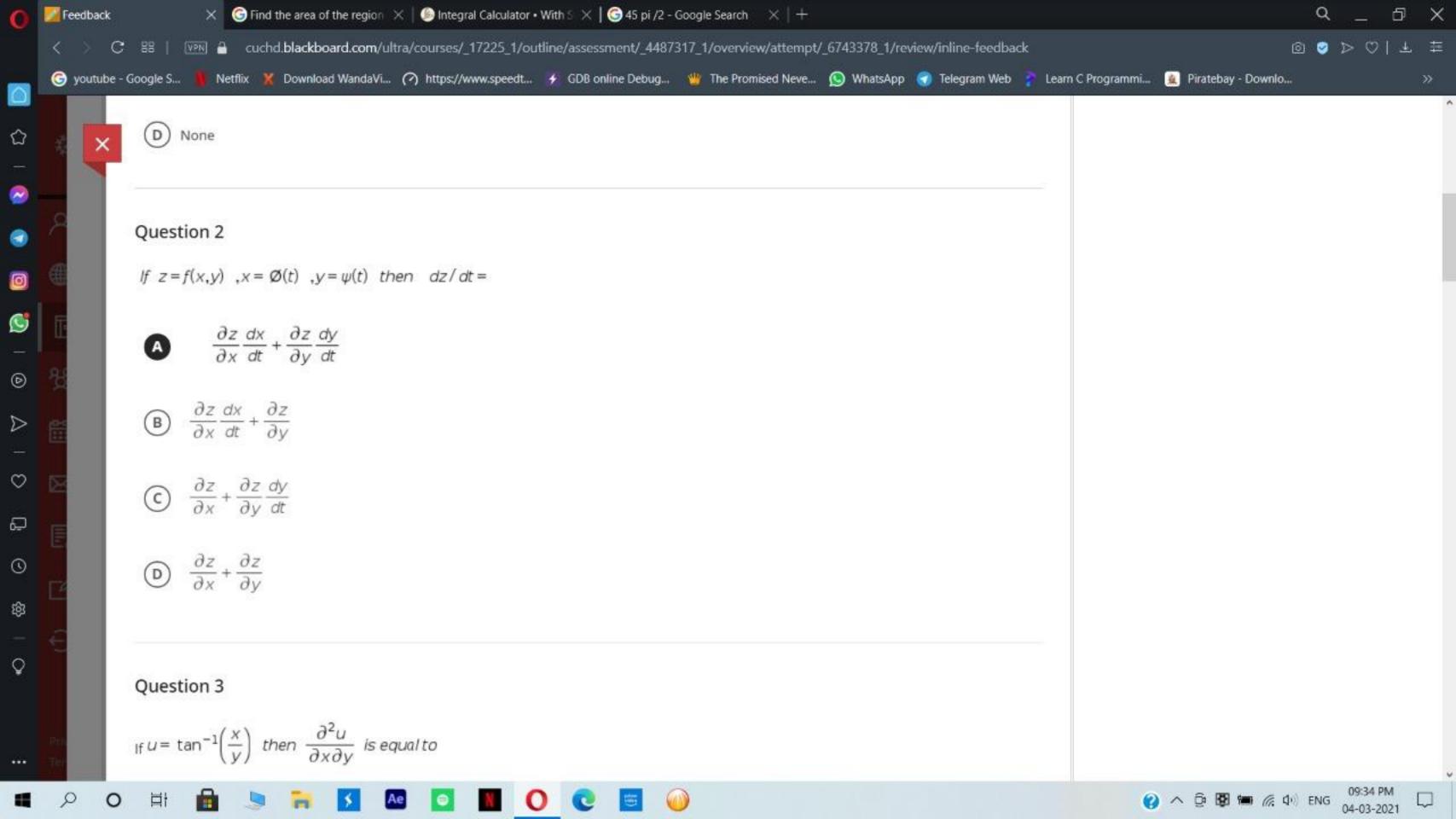
(B)	unimportant
(P)	unimportant

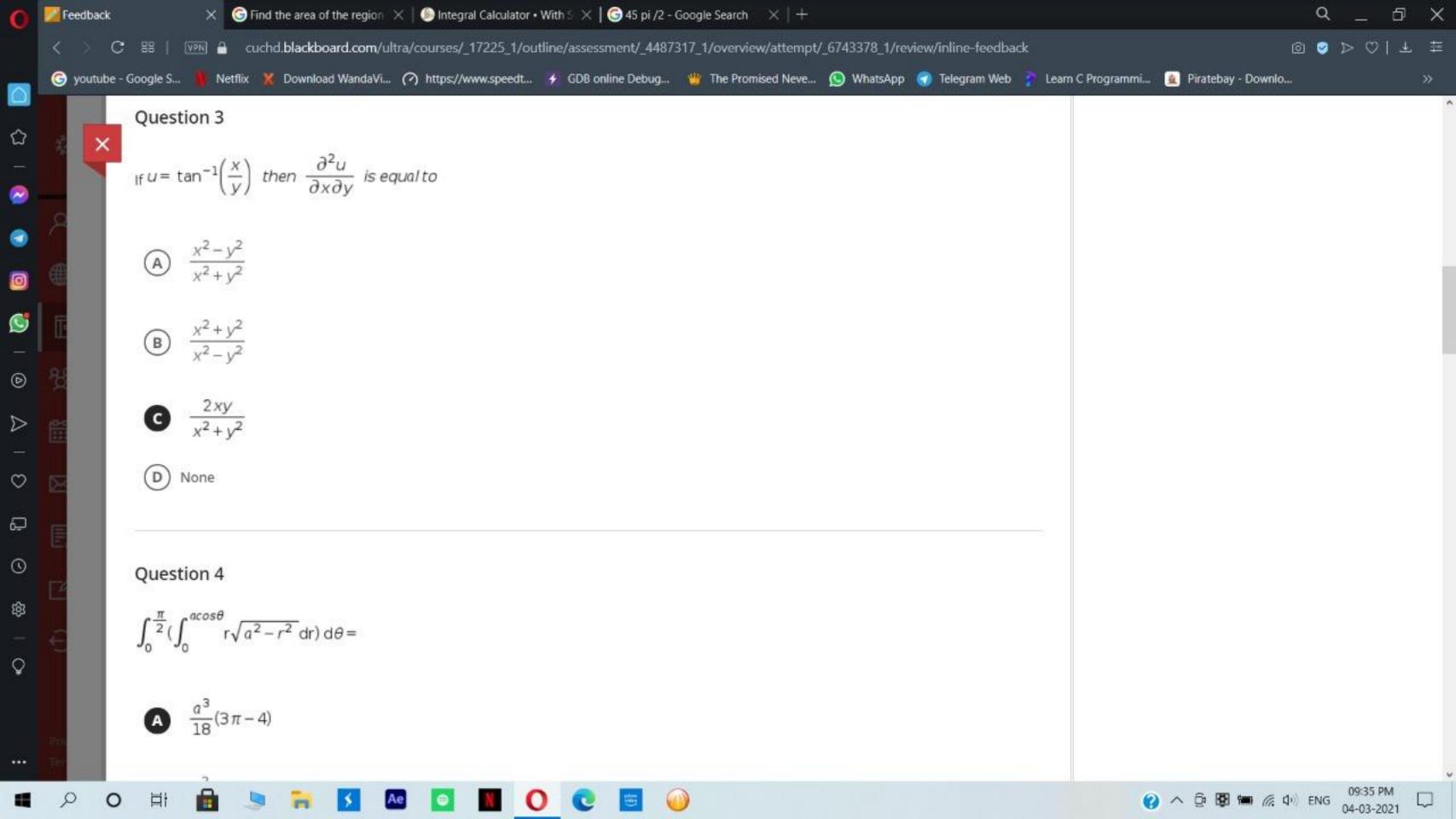


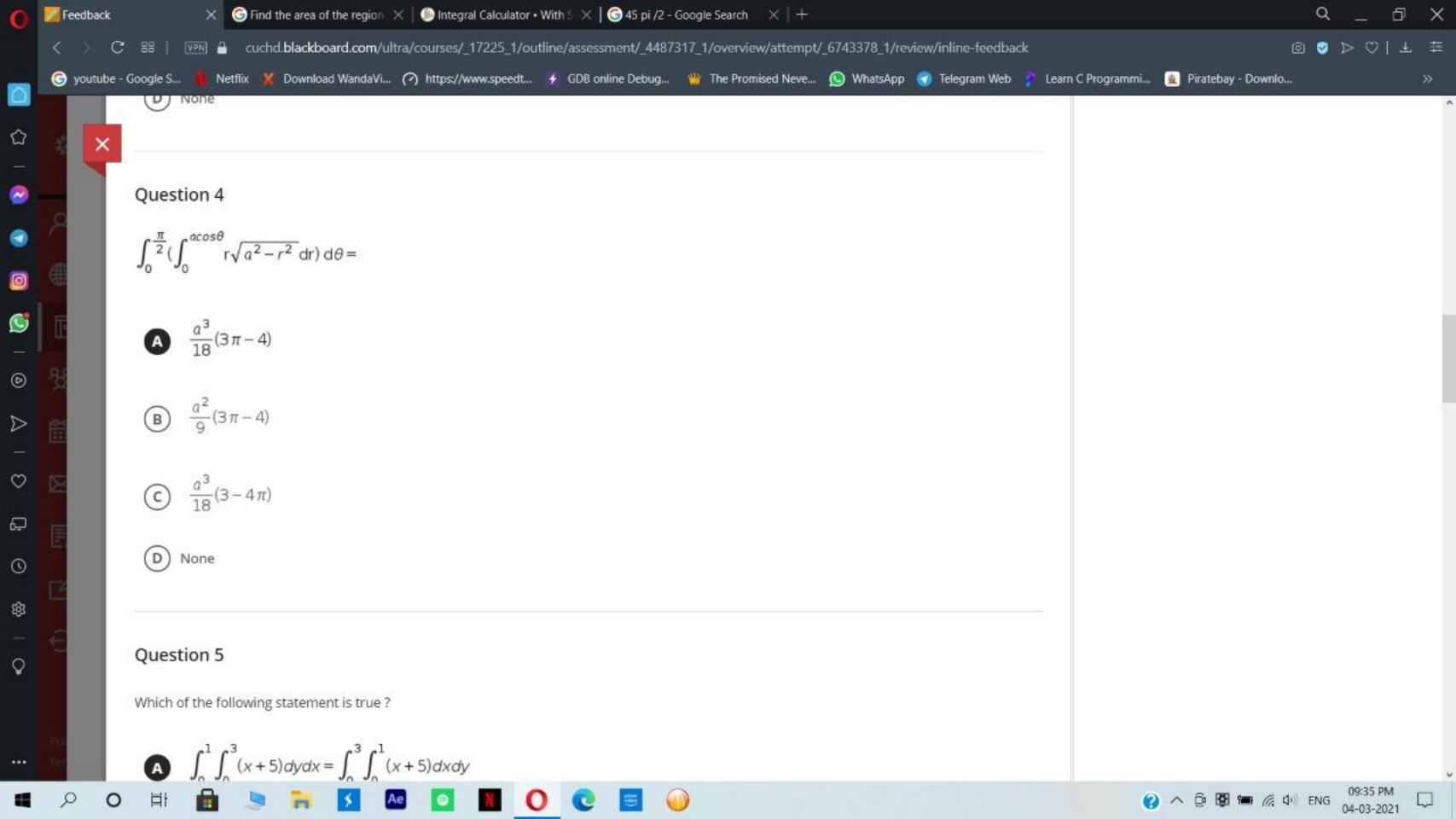












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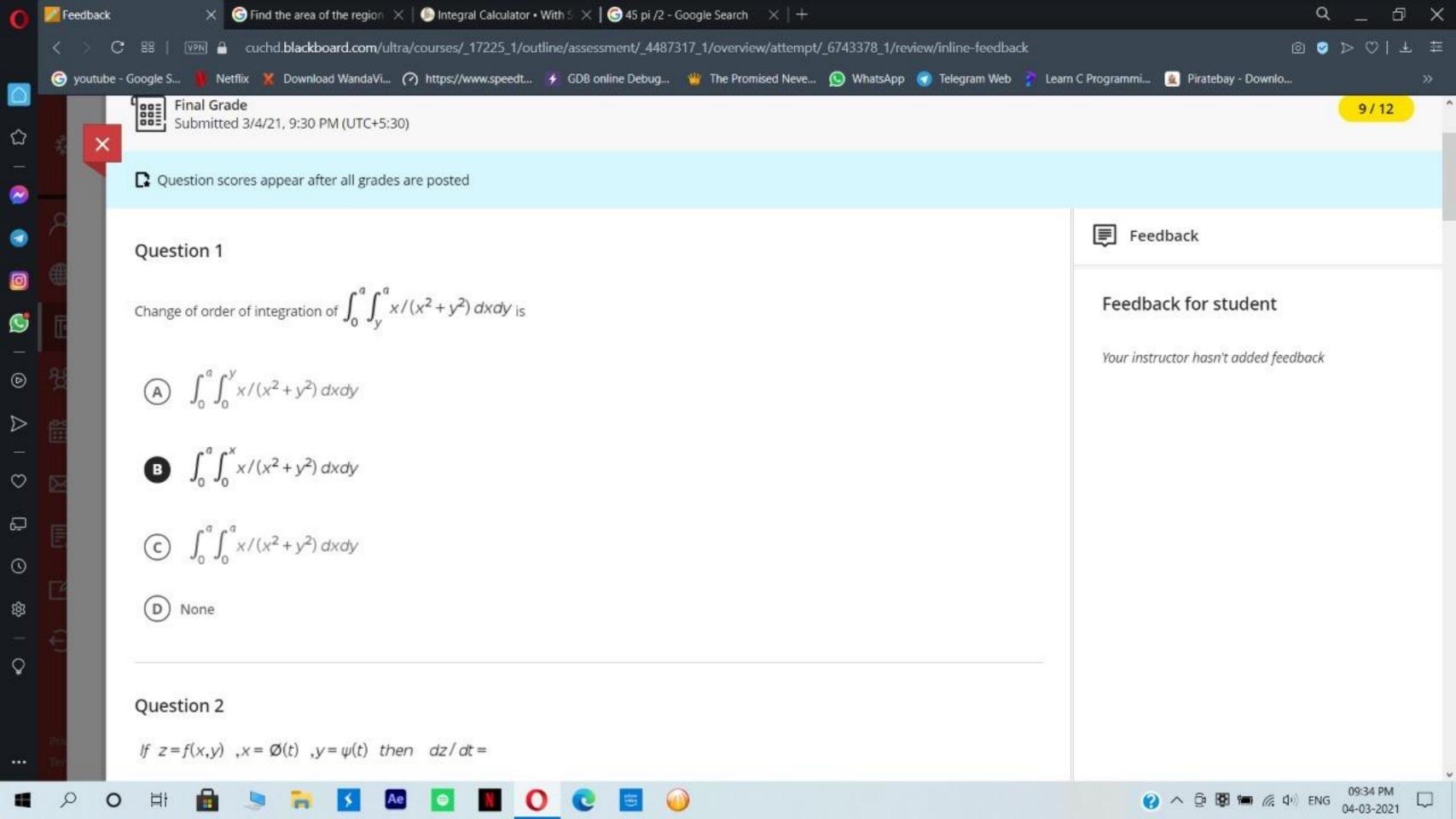
Question 7

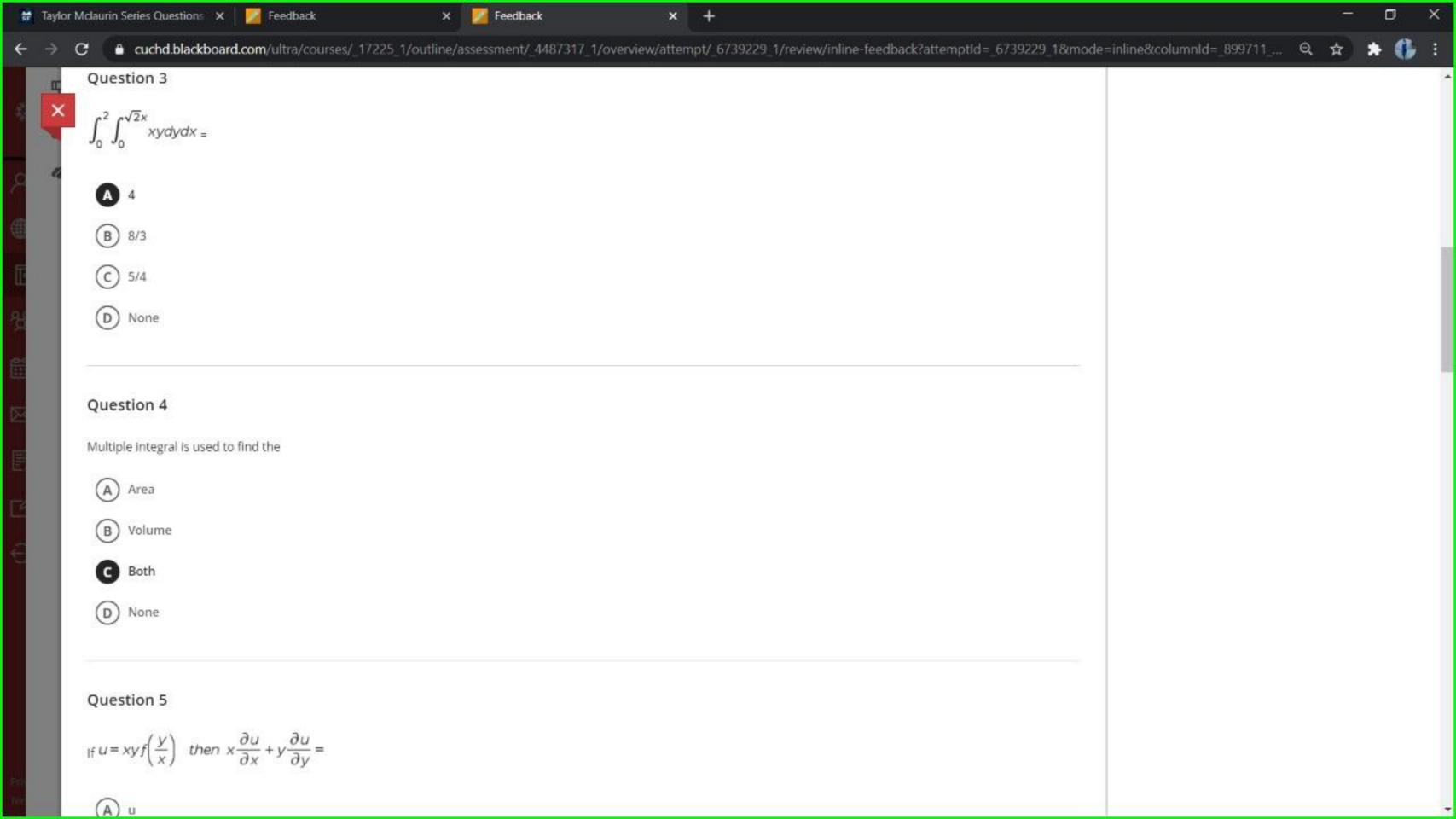
If
$$u = x^3 + y^3$$
 then $\frac{\partial^2 u}{\partial x \partial y}$ is

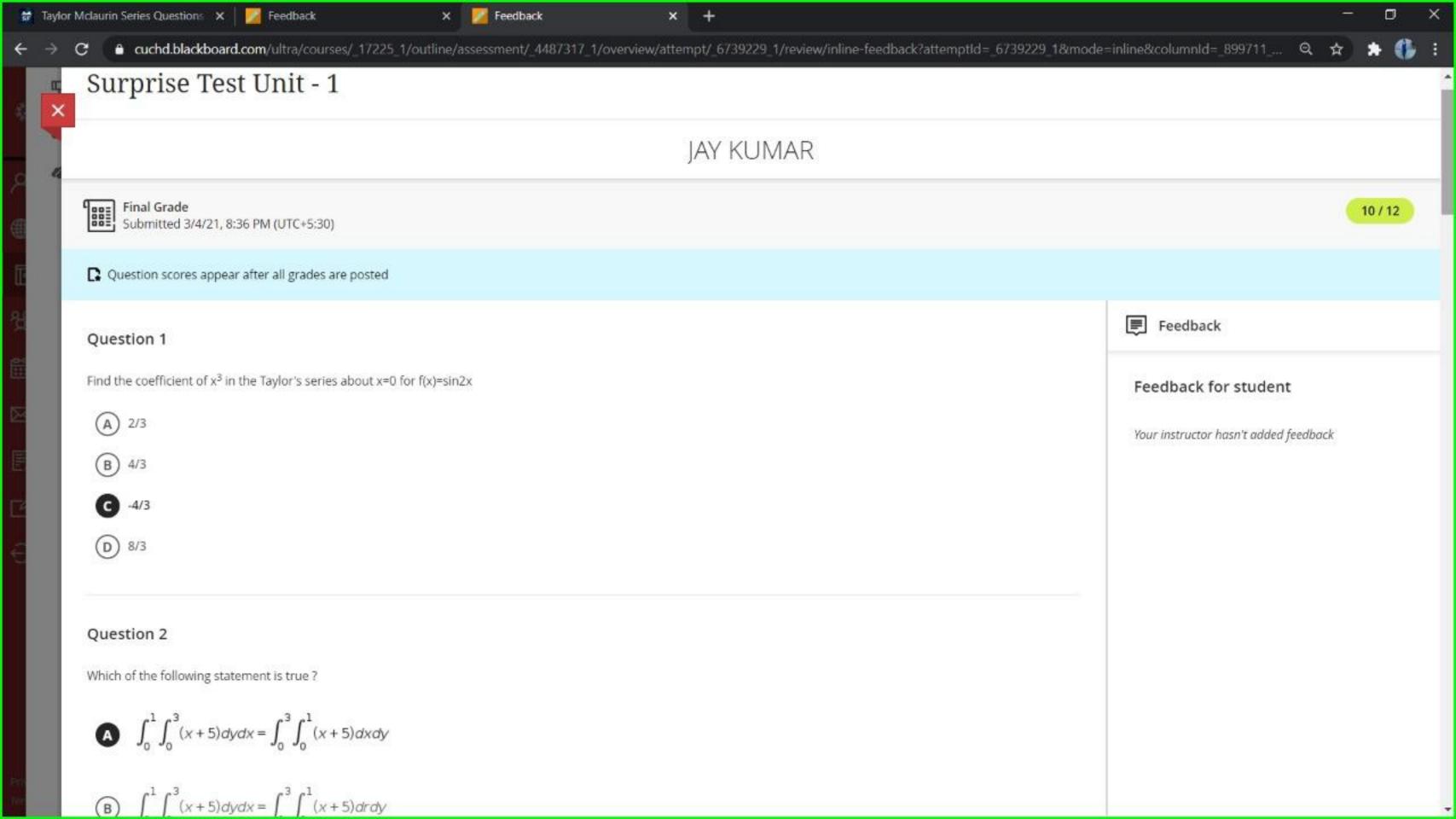
- A) 3
- B -3
- C 3x+3y
- **D** 0

If
$$u = \tan^{-1}\left(\frac{x}{y}\right)$$
 then $\frac{\partial^2 u}{\partial x \partial y}$ is equal to

- D None







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$$\int_0^1 \int_{\kappa^2}^{2-\kappa} xydydx_{\scriptscriptstyle \parallel}$$

- A 3/4
- (B) 3/2
- G 3/8
- D 3/5

Question 7

If
$$u = x^3 + y^3$$
 then $\frac{\partial^2 u}{\partial x \partial y}$ is

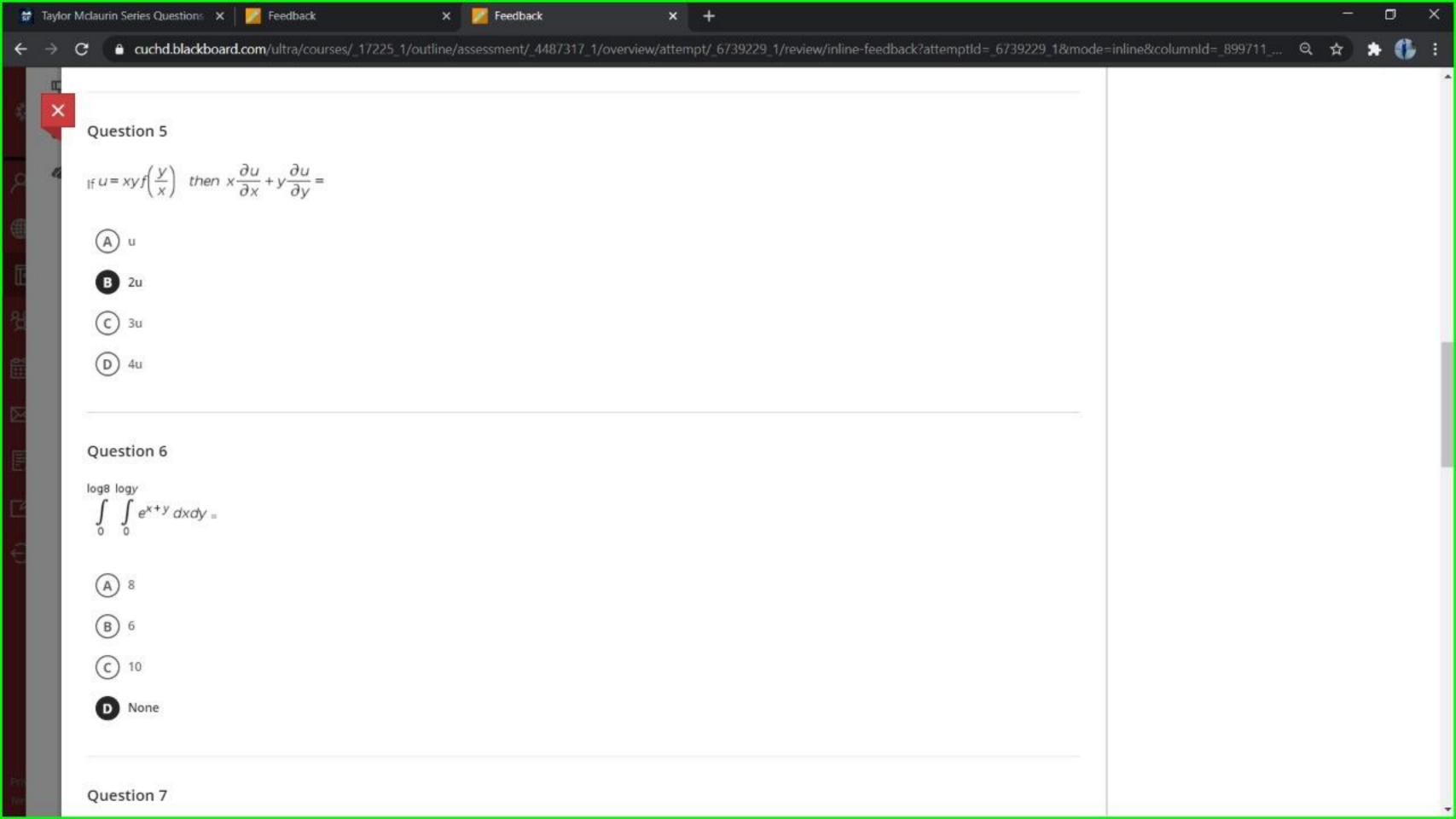
- (A)
- (B) -
- C) 3x+3
- **O** 0

. What is the degree of homogeneous function
$$f(x,y) = \frac{x^{\frac{1}{3}} + y^{\frac{1}{3}}}{x^{\frac{1}{2}} + y^{\frac{1}{2}}}$$









Question 9

$$\int_{0}^{2} \int_{1}^{2} \int_{0}^{yz} xyz \, dxdydz =$$

- A 15/2
- B 1/24
- C 1/49
- D None

Question 10

If
$$z = \log \frac{x^4 + y^4}{x + y}$$
 then $x \frac{\partial z}{\partial x} + y \frac{\partial z}{\partial y} = 0$

- A) 1
 B) 2
- **G** 3
- D 4

Evaluate
$$\iint_{R} xydxdy \text{ where } R = \{(x,y) : |x| + |y| \le 1 \}$$









Feedback

Feedback for student

Your instructor hasn't added feedback





Question 1

If $u = \tan^{-1}\left(\frac{x}{y}\right)$ then $\frac{\partial^2 u}{\partial x \partial y}$ is equal to

- D None

Question 2

Multiple integral is used to find the

- A Area
- B Volume
- C Both
- D None

Question 3

If x = uv, $y = \frac{u}{v}$ then $\frac{\partial(x,y)}{\partial(u,v)}$













P Type here to search

Question 11

Evaluate $\iint_{R} xydxdy \text{ where } R = \{(x,y) : |x| + |y| \le 1 \}$

- © 3
- None

Question 12

Change of order of integration in $\int_0^1 \int_0^{\sqrt{1-x^2}} y^2 dx dy$

- (a) $\int_{0}^{1} \int_{0}^{\sqrt{1-x^{2}}} y^{2} dxdy$ (b) $\int_{0}^{1} \int_{0}^{\sqrt{1-y^{2}}} y^{2} dxdy$ (c) $\int_{0}^{1} \int_{0}^{1} y^{2} dxdy$
- D None













Question 3

if
$$x = uv$$
, $y = \frac{u}{v}$ then $\frac{\partial(x,y)}{\partial(u,v)}$

- A -2u/v
- B -2v/u
- © 2U/V
- D None

Question 4

If
$$u = xyf\left(\frac{y}{x}\right)$$
 then $x\frac{\partial u}{\partial x} + y\frac{\partial u}{\partial y} =$

- **B** 2u
- 3u

Question 5

P Type here to search

If
$$z = f(x,y)$$
, $x = \emptyset(t)$, $y = \psi(t)$ then $dz/dt =$













\equiv \times

Surprise Test Unit - 1

Question 9

Evaluate $\iint r^2 dr d\theta$ over the area included the circle $r = 2\sin\theta$ and $r = 4\sin\theta$

- A o
- \bigcirc $\frac{5\pi}{2}$
- $\frac{46\pi}{3}$
- D None

Question 10

If $u = x^3 + y^3$ then $\frac{\partial^2 u}{\partial x \partial y}$ is

- (A) 3
- **B** -3
- C 3x+3y
- **D** 0



<





Question 7

If $x = r \cos \theta$, $y = r \sin \theta$ then

- A]]'=1
- B) JJ'=-1
- (C) JJ'=0
- D JJ'=2

Question 8

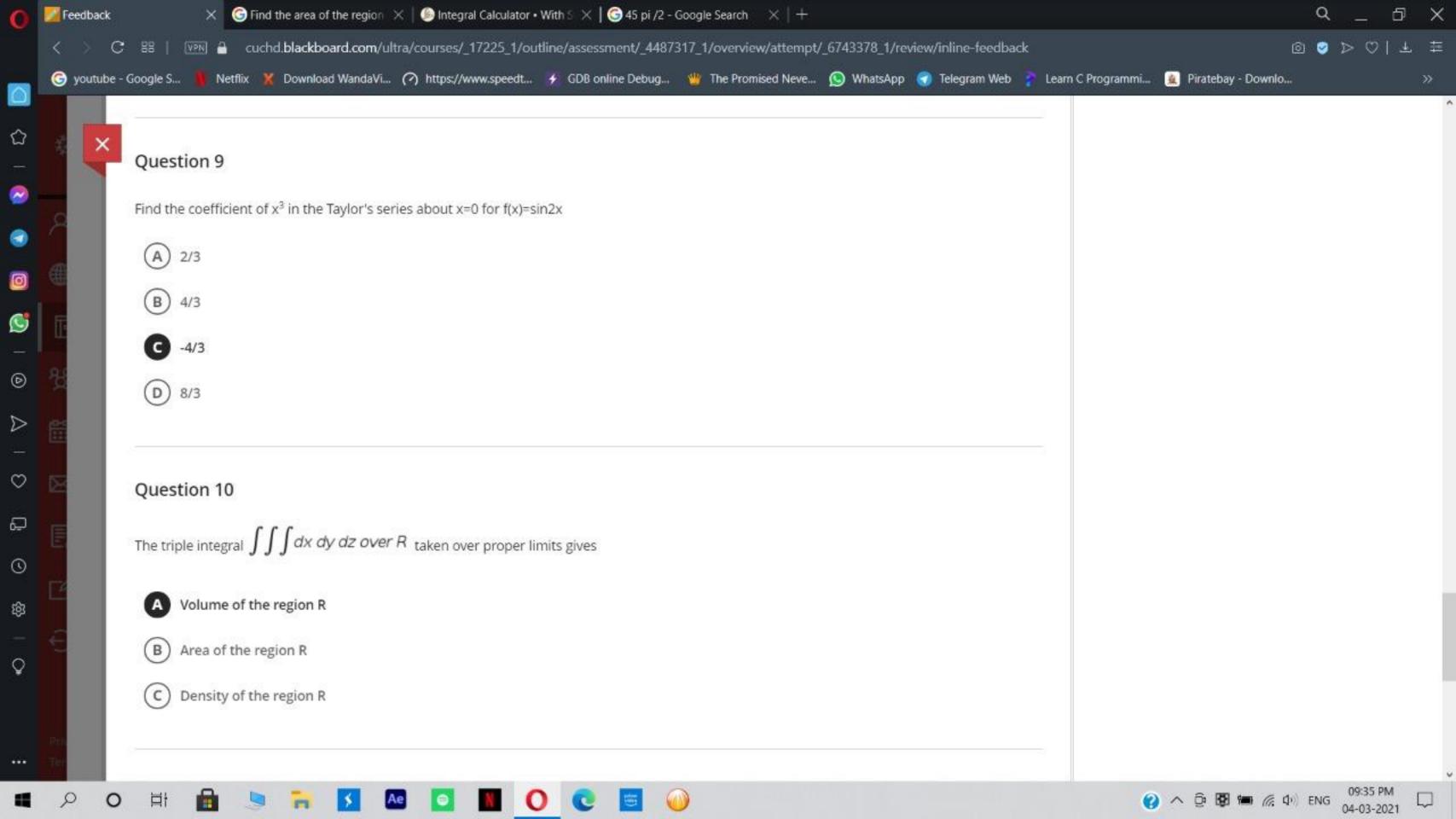
If u is a homogeneous function of degree n then $x^2u_{xx} + y^2u_{yy} + 2xyu_{xy} =$

- (A) nu
- B n(n-1)u
- (C) n(n-1)
- D None

Question 9

rr -









Question 5

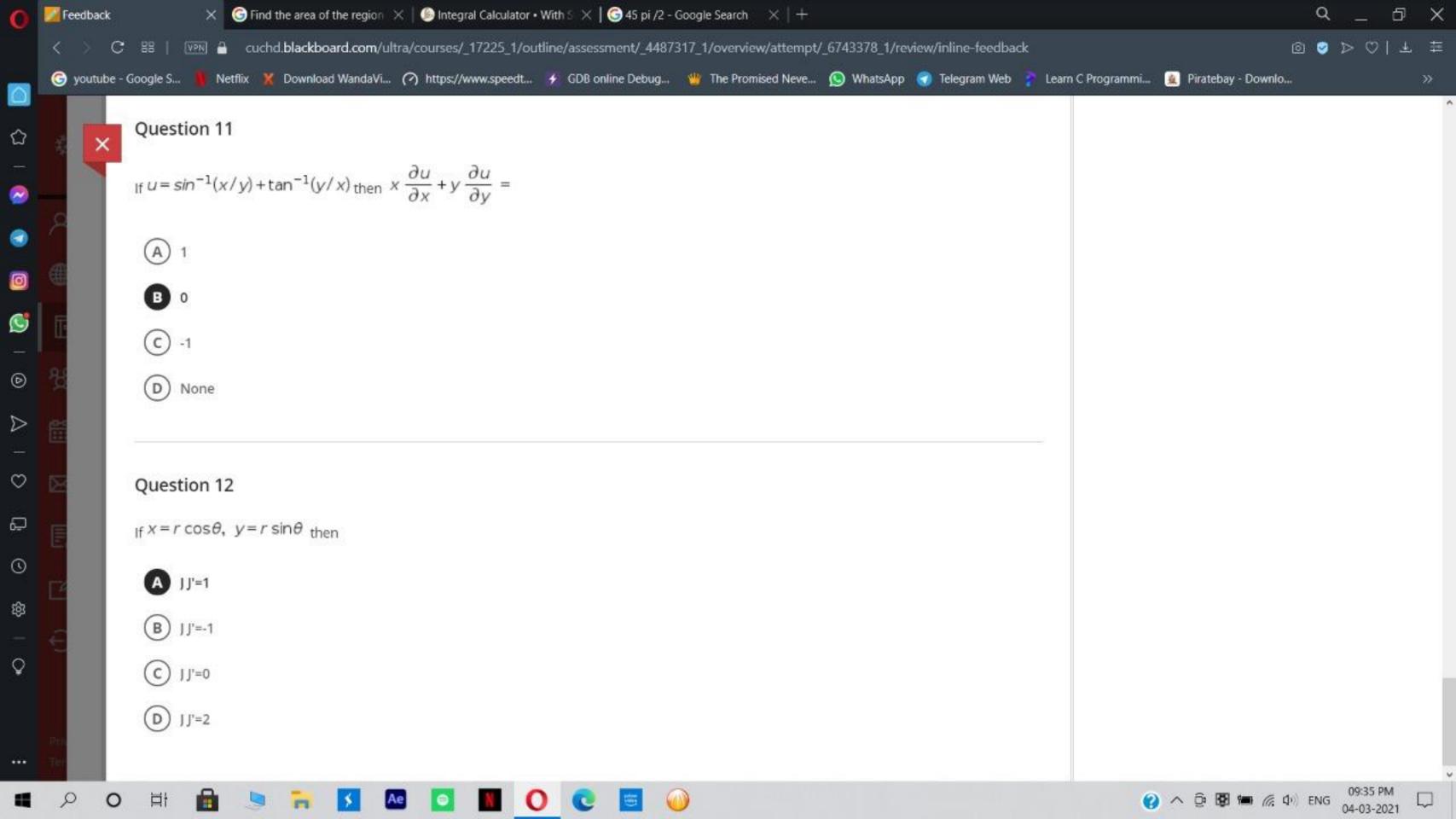
$$u = F(y-z, z-x, x-y)$$
 then $\frac{\partial u}{\partial x} + \frac{\partial u}{\partial y} + \frac{\partial u}{\partial z}$ is equal to

- (A)
- (B) 2
- (C) 3
- **D** 0

Question 6

$$\int_{0}^{\log x} \int_{0}^{\log x + y} dxdy =$$

- (A) 8
- (B) 6
- (C) 10
- None







Question 1

$$\frac{\sqrt{x} - \sqrt{y}}{\sqrt{x} + \sqrt{y}}$$
 is homogeneous function of degree is

- A
- B -1/2
- (C) 1/2
- D None

Question 2

$$\int_0^2 \int_0^{\sqrt{2}x} xydydx =$$

- A 4
- (B) 8/3
- (C) 5/4
- D None







Question 3

$$\int_0^1 \int_0^{\sqrt{1+x^2}} 1/(1+x^2+y^2) dxdy =$$

$$\frac{\pi}{4}\log(\sqrt{2}+1)$$

$$B \frac{\pi}{4} \log(\sqrt{3} + 1)$$

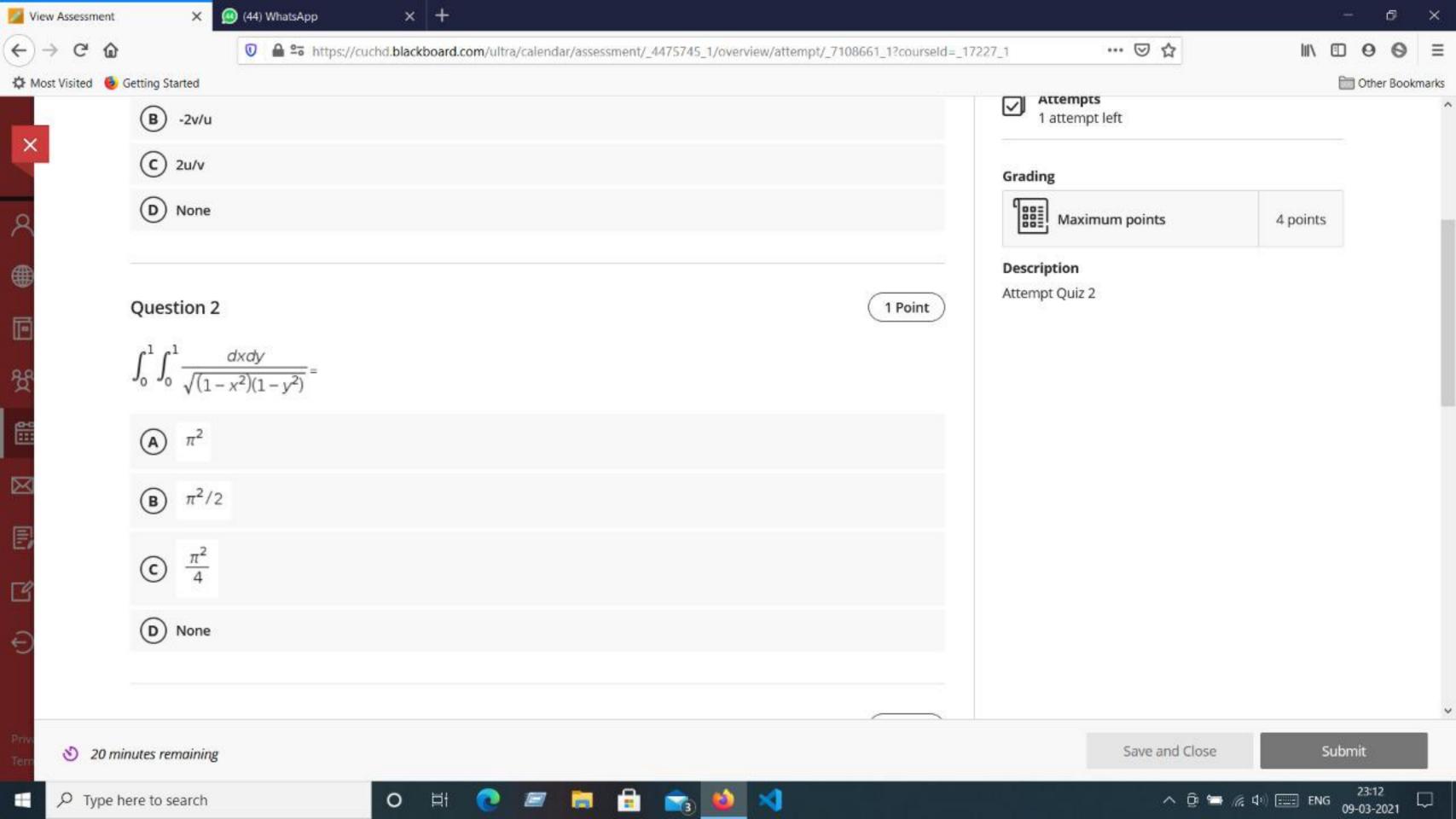
$$\frac{\pi}{4}\log(\pi+1)$$

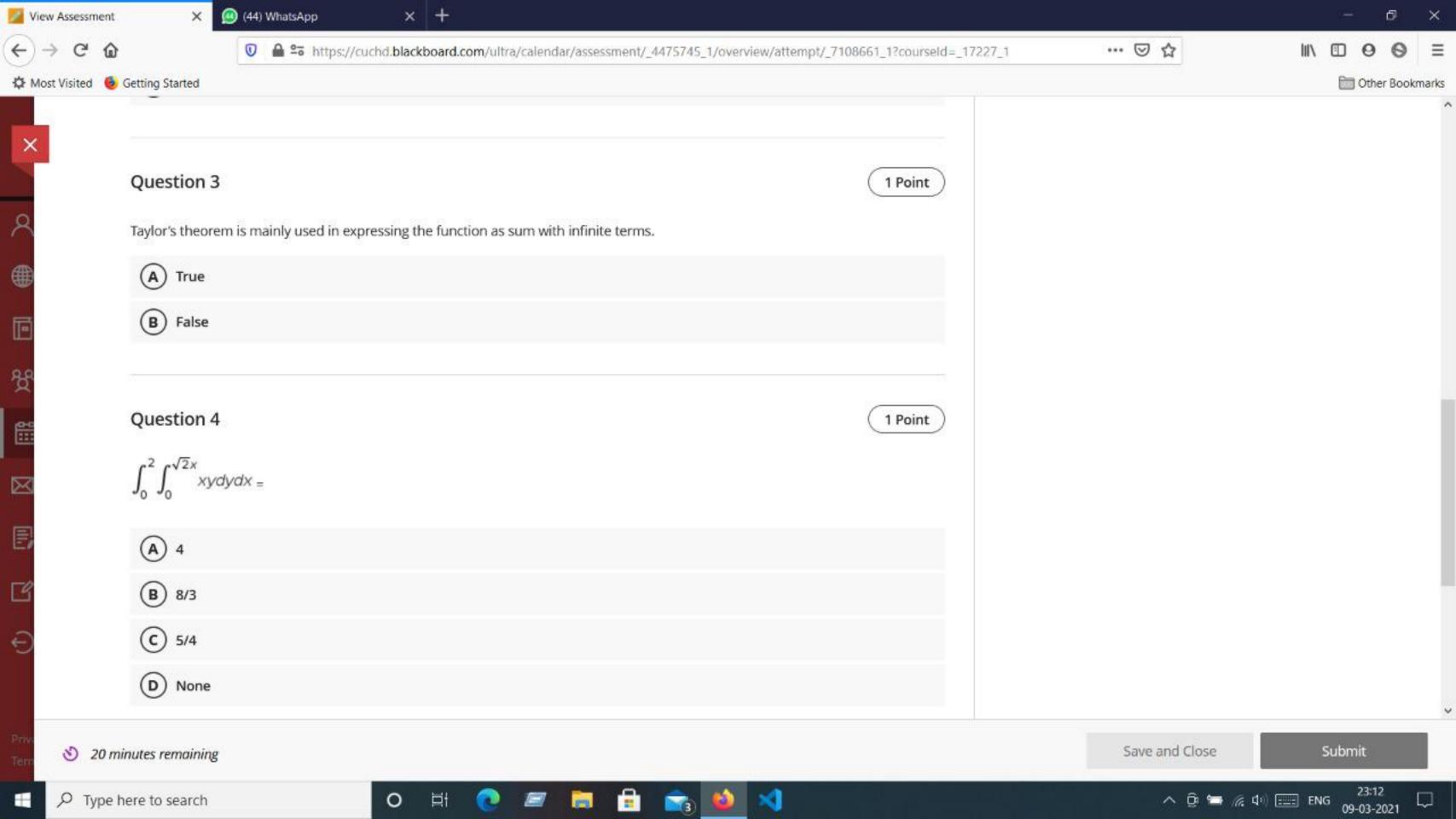
Question 4

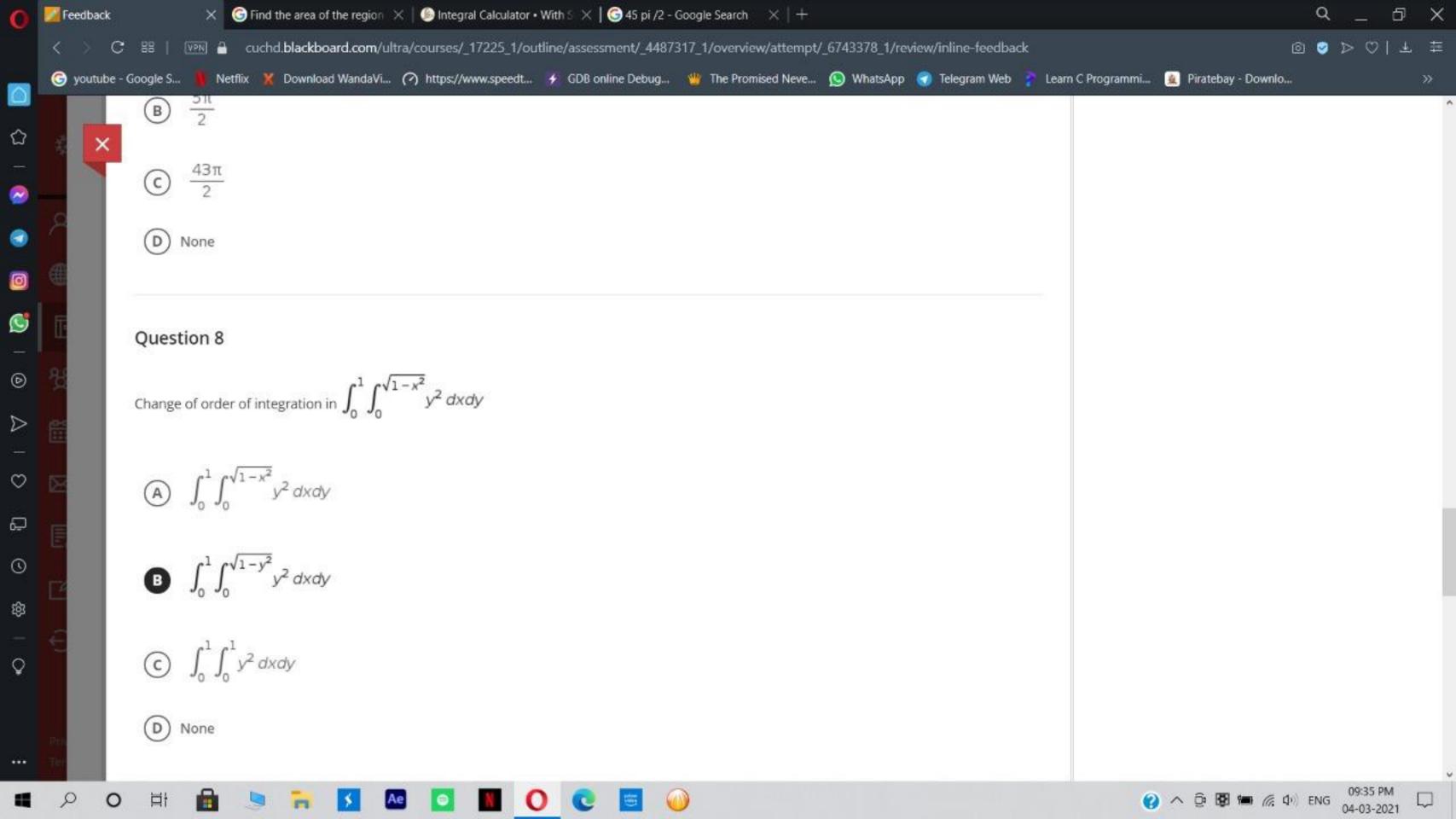
Find the coefficient of x^3 in the Taylor's series about x=0 for $f(x)=\sin 2x$



<









Question Pool



2



None



Question 39

1

Evaluate $\iint_{R} xydxdy$ where

$$R = \{(x,y) : |x| + |y| \le 1 \}$$

Hide answer choices ^

- (A)
- 1
- B) (
- (C) 3
- None



