



  **Sylvia Chinemerem Okeke** ▾



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Question 5

Answer saved

Marked out of 1

Find $\int \ln \frac{x}{2} dx$

Select one:

X(INX/2-1)

- ☐ a. e^x
- ☐ b. $\frac{x}{2}(\ln x - 1)$
- ☐ c. $\frac{1}{x}$
- ☒ d. $x \left(\ln \frac{x}{2} - 1 \right)$

Question 6

Answer saved

Marked out of 1

Given that $\ln(x^3) + \ln(7x) \cdot \frac{dy}{dx}$ is

Select one:

- ☐ a. $\frac{5}{x}$
- ☒ b. $\frac{4}{x}$
- ☐ c. $\frac{3}{x}$
- ☐ d. $\frac{2}{x}$



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Question 1

Answer saved

Marked out of 1

The nth term of the Maclaurin series expansion of $\cos 3x$ is

Select one:

- ☐ a. $\frac{(-1)^n (3x)^{2n}}{2n}$
- ☐ b. $\frac{(-1)^{2n} (3x)^{2n}}{(2n)!}$
- ☐ c. $\frac{(-1)^n (3x)^{2n+1}}{(2n+1)!}$
- ☒ d. $\frac{(-1)^n (3x)^{2n}}{(2n)!}$

$(-1)^n (3x)^{2n+1}$
 $2n!$ (D)

Question 2

Answer saved

Marked out of 1

$$\frac{d}{dx} (3x^2 \cos^{-1} x) = ..$$

Select one:

- ☒ a. $6x \cos^{-1} x - \frac{3x^2}{\sqrt{1-x^2}}$
- ☐ b. $6x \cos^{-1} x - \frac{3x^2}{\sqrt{x^2-1}}$
- ☐ c. $6x \cos^{-1} x - \frac{3x^2}{x\sqrt{1-x^2}}$
- ☐ d. $6x \cos^{-1} x + \frac{3x^2}{\sqrt{1-x^2}}$

A



Sylvia Chinemerem Okeke ▾



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Question 3

Answer saved

Marked out of 1

Obtain $\int \sin^2 x dx$

Select one:

- ☐ a. $\frac{1}{2}x - \frac{\sin 2x}{2}$
- ☐ b. $\frac{1}{4}x + \frac{\sin 2x}{2}$
- ☐ c. $\frac{1}{4}x - \frac{\sin x}{4}$
- ☒ d. $\frac{1}{2}x - \frac{\sin 2x}{4}$

D

Question 4

Answer saved

Marked out of 1

Integrate $\int \sec^2 x \tan x dx$

Select one:

- ☐ a. $2 \sec^2 x$
- ☐ b. $\tan^2 x$
- ☒ c. $\frac{1}{2} \sec^2 x$
- ☐ d. $\operatorname{cosec} x \cot x$

C



Basit Orire Akinyosoye ▾



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Question 1

Not yet answered

Marked out of 1

Given that a is a positive constant, evaluate $\int_a^{3a} \left(\frac{2x+1}{x} \right) dx$

Select one:

- ☐ a. $3a + \ln 4$
- ☒ b. $4a + \ln 3$
- ☐ c. $-3a + \ln 3$
- ☐ d. $5a + \ln 3$

B



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Question 1

Not yet answered

Marked out of 1

Integrate $\int \sec^2 x \tan x dx$

Select one:

- ☐ a. $2 \sec^2 x$
- ☐ b. $\tan^2 x$
- ☐ c. $\frac{1}{2} \sec^2 x$
- ☐ d. $\operatorname{cosec} x \cot x$



Oreoluwa Favour Awoyemi ⌵



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Question 1

Not yet answered

Marked out of 1

$$\frac{d}{dx}(\operatorname{cosec}^{-1}(5x)) = \dots$$

Select one:

- ☐ a. $-\frac{1}{5x\sqrt{25x^2-1}}$
- ☐ b. $-\frac{1}{x\sqrt{25x^2-1}}$
- ☐ c. $-\frac{5}{x\sqrt{25x^2-1}}$
- ☐ d. $\frac{1}{5x\sqrt{25x^2-1}}$

B

Question 2

Not yet answered

Marked out of 1

$$\text{Find } \int \frac{dx}{4+9x^2}$$

Select one:

- ☐ a. $\frac{1}{3}\tan^{-1}\left(\frac{3x}{2}\right)$
- ☐ b. $\frac{1}{6}\tan^{-1}\left(\frac{3x}{2}\right)$
- ☐ c. $\frac{2}{3}\ln\left(\frac{2+3x}{2}\right)$
- ☐ d. $\ln(4+9x^2)$

B





Bassey Orok Edet ▾



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Question 1

Not yet answered

Marked out of 1

Find $\int \ln \frac{x}{2} dx$

Select one:

- ☐ a. e^x
- ☐ b. $\frac{x}{2}(\ln x - 1)$
- ☐ c. $\frac{1}{x}$
- ☒ d. $x \left(\ln \frac{x}{2} - 1 \right)$

Question 2

Not yet answered

Marked out of 1

Integrate $\int \sec^2 x \tan x dx$

Select one:

- ☒ a. $2 \sec^2 x$
- ☐ b. $\tan^2 x$
- ☐ c. $\frac{1}{2} \sec^2 x$
- ☐ d. $\operatorname{cosec} x \cot x$



Angel Chizutelum Egbogu ▾



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Question 1

Not yet answered

Marked out of 1

Find $\int \frac{dx}{4+9x^2}$

Select one:

- ☐ a. $\frac{1}{3} \tan^{-1} \left(\frac{3x}{2} \right)$
- ☐ b. $\frac{1}{6} \tan^{-1} \left(\frac{3x}{2} \right)$
- ☐ c. $\frac{2}{3} \ln \left(\frac{2+3x}{2} \right)$
- ☐ d. $\ln(4+9x^2)$



Ireoluwa Abigail Bada ▾



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Question 1

Not yet answered

Marked out of 1

The Wallis formula for $\int_0^{2\pi} \sin^n x \, dx, n \geq 2$ and n is an odd number, is

Select one:

- ☒ a. $\frac{(n-1)(n-3)(n-5)\dots 6.4.2}{(n-2)(n-4)(n-6)\dots 5.3.1}$ C
- ☐ b. $\frac{4.(n-1)(n-3)(n-5)\dots 6.4.2}{(n-2)(n-4)(n-6)\dots 5.3.1} \left(\frac{\pi}{2}\right)$
- ☐ c. $\frac{4.(n-1)(n-3)(n-5)\dots 6.4.2}{(n-2)(n-4)(n-6)\dots 5.3.1}$
- ☐ d. $\frac{4.(n-1)(n-3)(n-5)\dots 5.3.1}{(n-2)(n-4)(n-6)\dots 6.4.2}$



Question 2

Not yet answered

Marked out of 1

Which of the following option best describes the reduction formula for $V_n = \int \operatorname{cosec}^n x \, dx$, $n \geq 2$.

Select one:

- ☒ a. $\frac{-1}{n-1} \operatorname{cosec}^{n-2} x \cot x + \frac{n-2}{n-1} V_{n-2}$ A
- ☐ b. $\frac{-1}{1-n} \operatorname{cosec}^{n-2} x \cot x - \frac{n-2}{n-1} V_{n-2}$
- ☐ c. $\frac{-1}{n-1} \operatorname{cosec}^{n-2} x \tan x + \frac{n-2}{n-1} V_{n-2}$
- ☐ d. **None.**

Question 3

Not yet answered

Marked out of 1

$$\frac{d}{dx} (\operatorname{cosec}^{-1}(5x)) = \dots$$

Select one:

- ☐ a. $-\frac{1}{5x\sqrt{25x^2-1}}$
- ☒ b. $-\frac{1}{x\sqrt{25x^2-1}}$
- ☐ c. $-\frac{5}{x\sqrt{25x^2-1}}$
- ☐ d. $\frac{1}{5x\sqrt{25x^2-1}}$



Eseoghene Ayobami Eduwa



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Question 1

Not yet answered

Marked out of 1

$$\int \frac{x}{x-1} dx$$

Select one:

- ☐ a. $\ln(x+1)$
- ☐ b. $x + \ln(x-1)$
- ☐ c. $e^{\frac{x+1}{x}}$
- ☐ d. $\ln\left(\frac{x-1}{x}\right)$

Question 2

Not yet answered

Marked out of 1

Given the function $f(x-5) = 3x^2 - x + 1$, evaluate $f(x)$

Select one:

- ☐ a. $3x^2 + 29x + 81$
- ☐ b. $3x^2 - 29x - 71$
- ☐ c. $3x^2 + 29x + 71$
- ☐ d. $3x^2 - 3x + 1$

C



Question 2

Not yet answered

Marked out of 1

Given the functions $f(x) = 3x^2 - 5$, $g(x) = 5x - 1$ evaluate $f(g(x))$.

Select one:

☐ a. $75x^2 - 30x - 2$.

☐ b. $25x^2 + 2x + 7$. A

☐ c. $75x^2 + 3x + 1$.

☐ d. $70x - 70$

Question 3

Not yet answered

Marked out of 1

Given that $y = \frac{x}{2x+5}$. Find $\frac{dy}{dx}$

Select one:

☐ a. $\frac{2}{(2x+5)^2}$

☐ b. $\frac{3}{(2x+5)^2}$

☐ c. $\frac{4}{(2x+5)^2}$ D

☐ d. $\frac{5}{(2x+5)^2}$



Divine Takim Achu ▾



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Question 1

Answer saved

Marked out of 1

Given that $x^3 + x + y^3 + 3y = 6$. Find $\frac{dy}{dx}$ at $(1, 1)$

Select one:

- ☐ a. $-\frac{3}{4}$
- ☐ b. $\frac{2}{3}$
- ☐ c. $\frac{5}{2}$
- ☒ d. $-\frac{2}{3}$

D

Question 2

Answer saved

Marked out of 1

The Wallis formula for $\int_0^{2\pi} \sin^n x \, dx, n \geq 2$ and n is an odd number, is

Select one:

- ☐ a. $\frac{(n-1)(n-3)(n-5)\dots 6.4.2}{(n-2)(n-4)(n-6)\dots 5.3.1}$
- ☐ b. $\frac{4.(n-1)(n-3)(n-5)\dots 6.4.2}{(n-2)(n-4)(n-6)\dots 5.3.1} \left(\frac{\pi}{2}\right)$
- ☒ c. $\frac{4.(n-1)(n-3)(n-5)\dots 6.4.2}{(n-2)(n-4)(n-6)\dots 5.3.1}$
- ☐ d. $\frac{4.(n-1)(n-3)(n-5)\dots 5.3.1}{(n-2)(n-4)(n-6)\dots 6.4.2}$



Uthman Opemipo Olaniyan ▾



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Question 1

Not yet answered

Marked out of 1

Integrate $\int \sec^2 x \tan x dx$

Select one:

- ☐ a. $2 \sec^2 x$
- ☐ b. $\tan^2 x$
- ☐ c. $\frac{1}{2} \sec^2 x$
- ☐ d. $\operatorname{cosec} x \cot x$

Question 2

Not yet answered

Marked out of 1

$\lim_{x \rightarrow 3} \frac{x^5 - 243}{x^3 - 27}$ equal

Select one:

- ☐ a. 25
- ☐ b. 15
- ☐ c. 10
- ☐ d. 9

B

Question 3

Not yet answered

Marked out of 1

$$\lim_{x \rightarrow 3} \frac{x^5 - 243}{x^3 - 27} \text{ equal}$$

Select one:

- ☐ a. 25
- ☐ b. 15
- ☐ c. 10
- ☐ d. 9

Question 4

Not yet answered

Marked out of 1

$$\text{Given that } y = \frac{x}{2x+5}. \text{ Find } \frac{dy}{dx}$$

Select one:

- ☐ a. $\frac{2}{(2x+5)^2}$
- ☐ b. $\frac{3}{(2x+5)^2}$
- ☐ c. $\frac{4}{(2x+5)^2}$
- ☐ d. $\frac{5}{(2x+5)^2}$





Temilomo Feyisola Osilaja ✉



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Question 1

Not yet answered

Marked out of 1

Integrate $\int \sec^2 x \tan x dx$

Select one:

- ☐ a. $2 \sec^2 x$
- ☐ b. $\tan^2 x$
- ☐ c. $\frac{1}{2} \sec^2 x$
- ☐ d. $\operatorname{cosec} x \cot x$

Question 2

Not yet answered

Marked out of 1

$\int \frac{x}{x-1} dx$

Select one:

- ☐ a. $\ln(x+1)$
- ☐ b. $x + \ln(x-1)$
- ☐ c. $e^{\frac{x+1}{x}}$
- ☐ d. $\ln\left(\frac{x-1}{x}\right)$



Semiu Ayomide Bello ⌵



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Question 1

Not yet answered

Marked out of 1

Integrate $\int \sec^2 x \tan x dx$

Select one:

- ☐ a. $2 \sec^2 x$
- ☐ b. $\tan^2 x$
- ☒ c. $\frac{1}{2} \sec^2 x$
- ☐ d. $\operatorname{cosec} x \cot x$

Question 2

Not yet answered

Marked out of 1

The Wallis formula for $\int_0^{2\pi} \sin^n x dx, n \geq 2$ and n is an odd number, is

Select one:

- ☒ a. $\frac{(n-1)(n-3)(n-5)\dots 6.4.2}{(n-2)(n-4)(n-6)\dots 5.3.1}$
- ☐ b. $\frac{4.(n-1)(n-3)(n-5)\dots 6.4.2}{(n-2)(n-4)(n-6)\dots 5.3.1} \left(\frac{\pi}{2}\right)$
- ☐ c. $\frac{4.(n-1)(n-3)(n-5)\dots 6.4.2}{(n-2)(n-4)(n-6)\dots 5.3.1}$
- ☐ d. $\frac{4.(n-1)(n-3)(n-5)\dots 5.3.1}{(n-2)(n-4)(n-6)\dots 6.4.2}$





Omotola Favour Jegede ▾



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Question 1

Not yet answered

Marked out of 1

Given the function $f(x - 5) = 3x^2 - x + 1$, evaluate $f(x)$

Select one:

- ☐ a. $3x^2 + 29x + 81$
- ☐ b. $3x^2 - 29x - 71$
- ☐ c. $3x^2 + 29x + 71$
- ☐ d. $3x^2 - 3x + 1$

Question 2

Not yet answered

Marked out of 1

Given that $\ln(x^3) + \ln(7x) \cdot \frac{dy}{dx}$ is

Select one:

- ☐ a. $\frac{5}{x}$
- ☐ b. $\frac{4}{x}$
- ☐ c. $\frac{3}{x}$
- ☐ d. $\frac{2}{x}$



Samuel Oluwatamilore Omotoso ▾



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Question 1

Not yet answered

Marked out of 1

The Wallis formula for $\int_0^{2\pi} \sin^n x \, dx, n \geq 2$ and n is an odd number, is

Select one:

- ☐ a. $\frac{(n-1)(n-3)(n-5)\dots 6.4.2}{(n-2)(n-4)(n-6)\dots 5.3.1}$
- ☒ b. $\frac{4.(n-1)(n-3)(n-5)\dots 6.4.2}{(n-2)(n-4)(n-6)\dots 5.3.1} \left(\frac{\pi}{2}\right)$
- ☐ c. $\frac{4.(n-1)(n-3)(n-5)\dots 6.4.2}{(n-2)(n-4)(n-6)\dots 5.3.1}$
- ☐ d. $\frac{4.(n-1)(n-3)(n-5)\dots 5.3.1}{(n-2)(n-4)(n-6)\dots 6.4.2}$

Question 2

Not yet answered

Marked out of 1

The Product rule of differentiation formula for the function $V = r(x)s(x)$ is...

Select one:

- ☐ a. $\frac{dV}{dr} = x \frac{ds}{dr} + s \frac{dr}{dx}$
- ☒ b. $\frac{dV}{dx} = r \frac{ds}{dx} + s \frac{dr}{dx}$
- ☐ c. $\frac{dV}{dr} = x \frac{ds}{dr} - s \frac{dr}{dx}$
- ☐ d. $\frac{dV}{dx} = r \frac{ds}{dx} + s \frac{dr}{dx}$

D



Ireoluwatomiwa Omolade Blessing Ogunjimi



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Question 1

Not yet answered

Marked out of 1

$$\int \frac{x}{x-1} dx$$

Select one:

- ☐ a. $\ln(x+1)$
- ☒ b. $x + \ln(x-1)$
- ☐ c. $e^{\frac{x+1}{x}}$
- ☐ d. $\ln\left(\frac{x-1}{x}\right)$



Question 4

Not yet answered

Marked out of 1

Given the functions $f(x) = 3x^2 - 5$, $g(x) = 5x - 1$ evaluate $f(g(x))$.

Select one:

- ☒ a. $75x^2 - 30x - 2$.
- ☐ b. $25x^2 + 2x + 7$.
- ☐ c. $75x^2 + 3x + 1$.
- ☐ d. $70x - 70$

Question 5

Not yet answered

Marked out of 1

The Product rule of differentiation formula for the function

$V = r(x)s(x)$ is...

Select one:

- ☐ a. $\frac{dV}{dr} = x \frac{ds}{dr} + s \frac{dr}{dx}$
- ☐ b. $\frac{dx}{dV} = r \frac{ds}{dx} + s \frac{dr}{dx}$
- ☐ c. $\frac{dV}{dr} = x \frac{ds}{dr} - s \frac{dr}{dx}$
- ☒ d. $\frac{dV}{dx} = r \frac{ds}{dx} + s \frac{dr}{dx}$

Question 4

Not yet answered

Marked out of 1

Find $\frac{dy}{dx}$ of $y = \frac{\operatorname{cosec} x}{\cot x}$,

Select one:

- ☐ a. $\sec x + \tan x$
- ☐ b. $\operatorname{cosec} x + \cot x$
- ☐ c. $\sec x \tan x$
- ☐ d. none of the above

C

Question 5

Not yet answered

Marked out of 1

Given that a is a positive constant, evaluate $\int_a^{3a} \left(\frac{2x+1}{x} \right) dx$

Select one:

- ☐ a. $3a + \ln 4$
- ☐ b. $4a + \ln 3$
- ☐ c. $-3a + \ln 3$
- ☐ d. $5a + \ln 3$



Emmanuel Damilare Ajala ▾



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Question 1

Not yet answered

Marked out of 1

Integrate $\int \sec^2 x \tan x dx$

Select one:

- ☐ a. $2 \sec^2 x$
- ☒ b. $\tan^2 x$
- ☐ c. $\frac{1}{2} \sec^2 x$
- ☐ d. $\operatorname{cosec} x \cot x$

Question 2

Not yet answered

Marked out of 1

Find $\frac{dy}{dx}$ of $y = \frac{\operatorname{cosec} x}{\cot x}$,

Select one:

- ☐ a. $\sec x + \tan x$
- ☐ b. $\operatorname{cosec} x + \cot x$
- ☒ c. $\sec x \tan x$
- ☐ d. none of the above

Question 3

Not yet answered

Marked out of 1

Which of the following option best describes the reduction formula for

$$V_n = \int \operatorname{cosec}^n x \, dx, \quad n \geq 2.$$

Select one:

- ☒ a. $\frac{-1}{n-1} \operatorname{cosec}^{n-2} x \cot x + \frac{n-2}{n-1} V_{n-2}$
- ☐ b. $\frac{-1}{1-n} \operatorname{cosec}^{n-2} x \cot x - \frac{n-2}{n-1} V_{n-2}$
- ☐ c. $\frac{-1}{n-1} \operatorname{cosec}^{n-2} x \tan x + \frac{n-2}{n-1} V_{n-2}$
- ☐ d. **None.**

Question 4

Not yet answered

Marked out of 1

The Product rule of differentiation formula for the function $V = r(x)s(x)$ is...

Select one:

- ☐ a. $\frac{dV}{dr} = x \frac{ds}{dr} + s \frac{dr}{dx}$
- ☐ b. $\frac{dx}{dV} = r \frac{ds}{dx} + s \frac{dr}{dx}$
- ☐ c. $\frac{dV}{dr} = x \frac{ds}{dr} - s \frac{dr}{dx}$
- ☒ d. $\frac{dV}{dx} = r \frac{ds}{dx} + s \frac{dr}{dx}$

Question 5

Not yet answered

Marked out of 1

Given that $y = \frac{x}{2x+5}$. Find $\frac{dy}{dx}$

Select one:

- ☐ a. $\frac{2}{(2x+5)^2}$
- ☐ b. $\frac{3}{(2x+5)^2}$
- ☐ c. $\frac{4}{(2x+5)^2}$
- ☒ d. $\frac{5}{(2x+5)^2}$



Hikmat Adeola Amao ▾



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Question 1

Not yet answered

Marked out of 1

$$\frac{d}{dx}(\operatorname{cosec}^{-1}(5x)) = \dots$$

Select one:

- ☒ a. $-\frac{1}{5x\sqrt{25x^2-1}}$
- ☐ b. $-\frac{1}{x\sqrt{25x^2-1}}$
- ☐ c. $-\frac{5}{x\sqrt{25x^2-1}}$
- ☐ d. $\frac{1}{5x\sqrt{25x^2-1}}$

Question 2

Not yet answered

Marked out of 1

The Wallis formula for $\int_0^{2\pi} \sin^n x \, dx, n \geq 2$ and n is an odd number, is

Select one:

- ☐ a. $\frac{(n-1)(n-3)(n-5)\dots 6.4.2}{(n-2)(n-4)(n-6)\dots 5.3.1}$
- ☐ b. $\frac{4.(n-1)(n-3)(n-5)\dots 6.4.2}{(n-2)(n-4)(n-6)\dots 5.3.1} \left(\frac{\pi}{2}\right)$
- ☒ c. $\frac{4.(n-1)(n-3)(n-5)\dots 6.4.2}{(n-2)(n-4)(n-6)\dots 5.3.1}$
- ☐ d. $\frac{4.(n-1)(n-3)(n-5)\dots 5.3.1}{(n-2)(n-4)(n-6)\dots 6.4.2}$

Question 2

Not yet answered

Marked out of 1

Given that $y = \frac{x}{2x+5}$. Find $\frac{dy}{dx}$

Select one:

- ☐ a. $\frac{2}{(2x+5)^2}$
- ☐ b. $\frac{3}{(2x+5)^2}$
- ☐ c. $\frac{4}{(2x+5)^2}$
- ☒ d. $\frac{5}{(2x+5)^2}$

Question 3

Not yet answered

Marked out of 1

Obtain $\int \sin^2 x dx$

Select one:

- ☐ a. $\frac{1}{2}x - \frac{\sin 2x}{2}$
- ☐ b. $\frac{1}{4}x + \frac{\sin 2x}{2}$
- ☐ c. $\frac{1}{4}x - \frac{\sin x}{4}$
- ☒ d. $\frac{1}{2}x - \frac{\sin 2x}{4}$



Question 3

Not yet answered

Marked out of 1

Given that $\ln(x^3) + \ln(7x) \cdot \frac{dy}{dx}$ is

Select one:

- ☐ a. $\frac{5}{x}$
- ☐ b. $\frac{4}{x}$
- ☐ c. $\frac{3}{x}$
- ☐ d. $\frac{2}{x}$

Question 4

Not yet answered

Marked out of 1

$\frac{d}{dx}(3x^2 \cos^{-1}x) = ..$

Select one:

- ☐ a. $6x \cos^{-1}x - \frac{3x^2}{\sqrt{1-x^2}}$
- ☐ b. $6x \cos^{-1}x - \frac{3x^2}{\sqrt{x^2-1}}$
- ☐ c. $6x \cos^{-1}x - \frac{3x^2}{x\sqrt{1-x^2}}$
- ☐ d. $6x \cos^{-1}x + \frac{3x^2}{\sqrt{1-x^2}}$



Question 6

Not yet answered

Marked out of 1

Find $\int \ln \frac{x}{2} dx$

Select one:

- ☐ a. e^x
- ☐ b. $\frac{x}{2}(\ln x - 1)$
- ☐ c. $\frac{1}{x}$
- ☒ d. $x\left(\ln \frac{x}{2} - 1\right)$

**Question 7**

Not yet answered

Marked out of 1

Find $\frac{dy}{dx}$ of $y = \frac{\operatorname{cosec} x}{\cot x}$,

Select one:

- ☐ a. $\sec x + \tan x$
- ☐ b. $\operatorname{cosec} x + \cot x$
- ☒ c. $\sec x \tan x$
- ☐ d. none of the above