

C3 RECAP 1

1. Differentiate $(5x - 2)^3$

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2. Integrate $(5x - 2)^3$

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C3 RECAP 2

1. Find $\int_{-2}^2 \frac{1}{\sqrt{x+2}} dx$

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2. Find the coordinates of the point on the curve

$$y = (1 - 4x)^{\frac{3}{2}}$$

At which the gradient is - 30

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C3 RECAP 3

1. Find the equation of the tangent to the curve

$y = \frac{1}{3x+1}$ at $(-1, -\frac{1}{2})$

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2. Rotate $y = x^2$ and $y = x^3$ about the y axis. Find the volume of the region formed.

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C3 RECAP 4

1. Find the area of the region in the first quadrant bound by the curve $y = \sqrt{9-x}$ and the axes.

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2. Differentiate e^{1-2x} and hence find the gradient at $x = 1$

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C3 RECAP 5

1. Find any stationary values on the curve $y = x^2 - \ln x^2$ and determine whether they are minima or maxima.

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2. Integrate $\frac{e^{2x+1}}{e^{3x-1}}$

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C3 RECAP 6

1. Find the area under the graph $y = \frac{e}{ex-7}$ between $x = 4$ and $x = 5$

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2. The region under the curve $y = \frac{1}{\sqrt{x}}$ is rotated 360° about the x axis. Find the volume formed between $x = 2$ and $x = 5$

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C3 RECAP 7

1. Show that $\int_0^1 (e^x - e^{-x}) dx = \frac{(e-1)^2}{e}$

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2. Find the exact value of $\int_0^{\infty} e^{1-2x} dx$

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C3 RECAP 8

1. Differentiate $y = (\ln x + 1)^6$

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2. Given that $y = \frac{5}{1+e^{3x}}$ find the value of $\frac{dy}{dx}$ when $x = 0$

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RECAP 1

1. $15(5x - 2)^2$
2. $\frac{1}{20}(5x - 2)^4$

RECAP 2

1. 4
2. (-6, 125)

RECAP 3

1. $y = -\frac{3}{4}x - \frac{5}{4}$
2. $\frac{1}{10}\pi$

RECAP 4

1. 18
2. $-2e^{1-2x}, \frac{-2}{e}$

RECAP 5

1. 1, minimum
2. $-e^{1-x}$

RECAP 6

1. $\ln \frac{5e-7}{4e-7}$
2. $\pi \ln \frac{5}{2}$

RECAP 7

1. As seen
2. $\frac{1}{2}e$

RECAP 8

1. $\frac{6}{x}(\ln x + 1)^5$
2. $-3\frac{3}{4}$