



**CHEMISTRY ONLINE**  
— **TUITION** —

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# PURE MATH

## ALGEBRA AND FUNCTION

Level & Board	EDEXCEL (A-LEVEL)
TOPIC:	INTEGRATION
PAPER TYPE:	QUESTION PAPER - 9
TOTAL QUESTIONS	8
TOTAL MARKS	26

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## INTEGRATION - 09

1. Use differentials to find  $\frac{dy}{dx}$  when  $\frac{y}{x} - \ln x = \ln c$

[4]

2. Use differentials to approximate the values of  $\sqrt[4]{17}$

[3]

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3. Find the approximate increase in the area of a circular disc if its diameter is increased from 44 *cm* to 44.4 *cm*.

[3]

4. Evaluate the indefinite integral

$$\int(3x^2 - 2x + 1)dx$$

[4]

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5. Evaluate the indefinite integral

$$\int (2x + 3)^{1/2} dx$$

[2]

6. Using differentials find  $\frac{dy}{dx}$  and  $\frac{dx}{dy}$  in the equation  $xy + x = 4$

[3]

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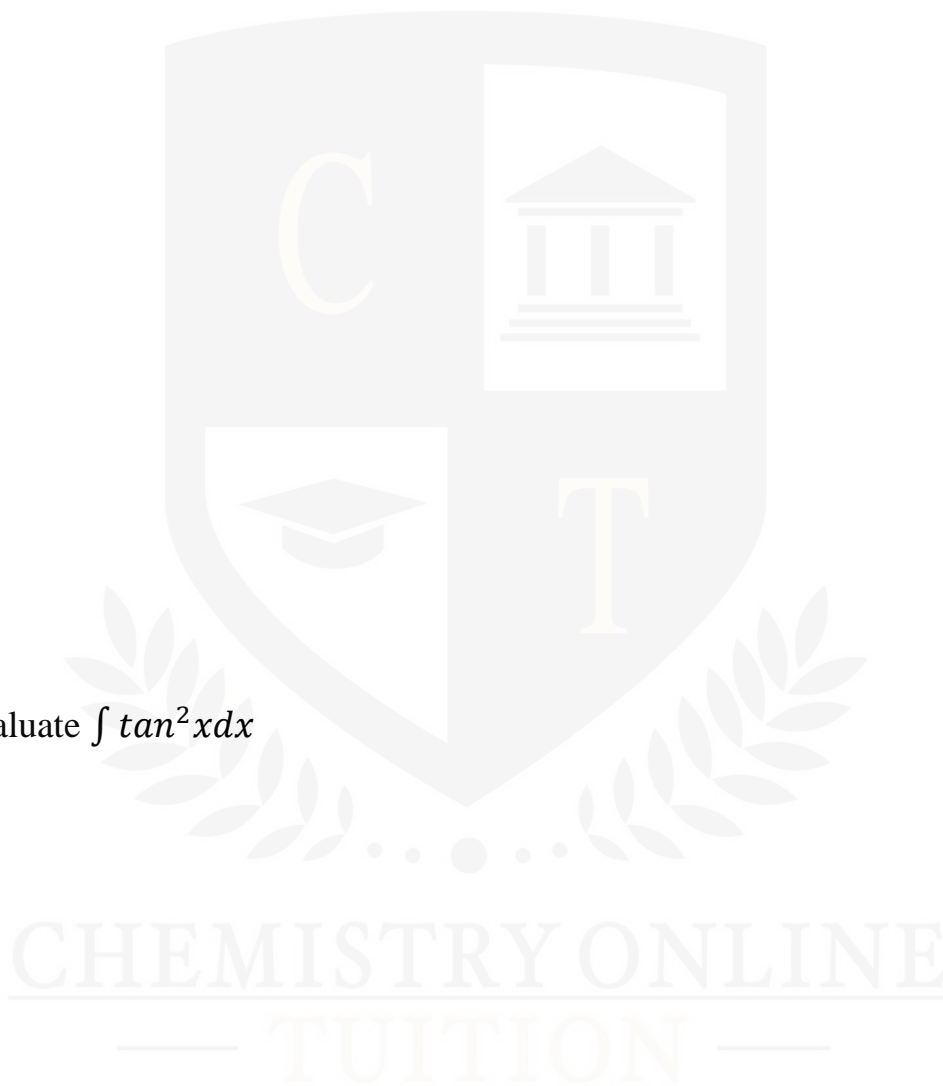
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7. Evaluate  $\int \frac{e^{2x+e^x}}{e^x} dx$

[2]

8. Evaluate  $\int \tan^2 x dx$

[5]



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**DR. ASHAR RANA**



- Founder & CEO of Chemistry Online Tuition Ltd.
- Tutoring students in UK and worldwide since 2008
- Chemistry, Physics, and Math's Tutor

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