



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

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# **PURE MATH**

## **ALGEBRA AND FUNCTION**

|                 |                     |
|-----------------|---------------------|
| Level & Board   | EDEXCEL (A-LEVEL)   |
| TOPIC:          | INTEGRATION         |
| PAPER TYPE:     | QUESTION PAPER - 12 |
| TOTAL QUESTIONS | 8                   |
| TOTAL MARKS     | 26                  |

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## INTEGRATION - 12

1. Find  $\delta y$  and  $dy$  in the case of  $y = x^2 + 2x$  when  $x$  change from 2 to 1.8

[3]

2. Evaluate the indefinite integral

$$\int (\sqrt{x} + \frac{1}{\sqrt{x}}) dx$$

[4]

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3. Evaluate the indefinite integral

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

[2]

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

[3]

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

[2]

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

[5]



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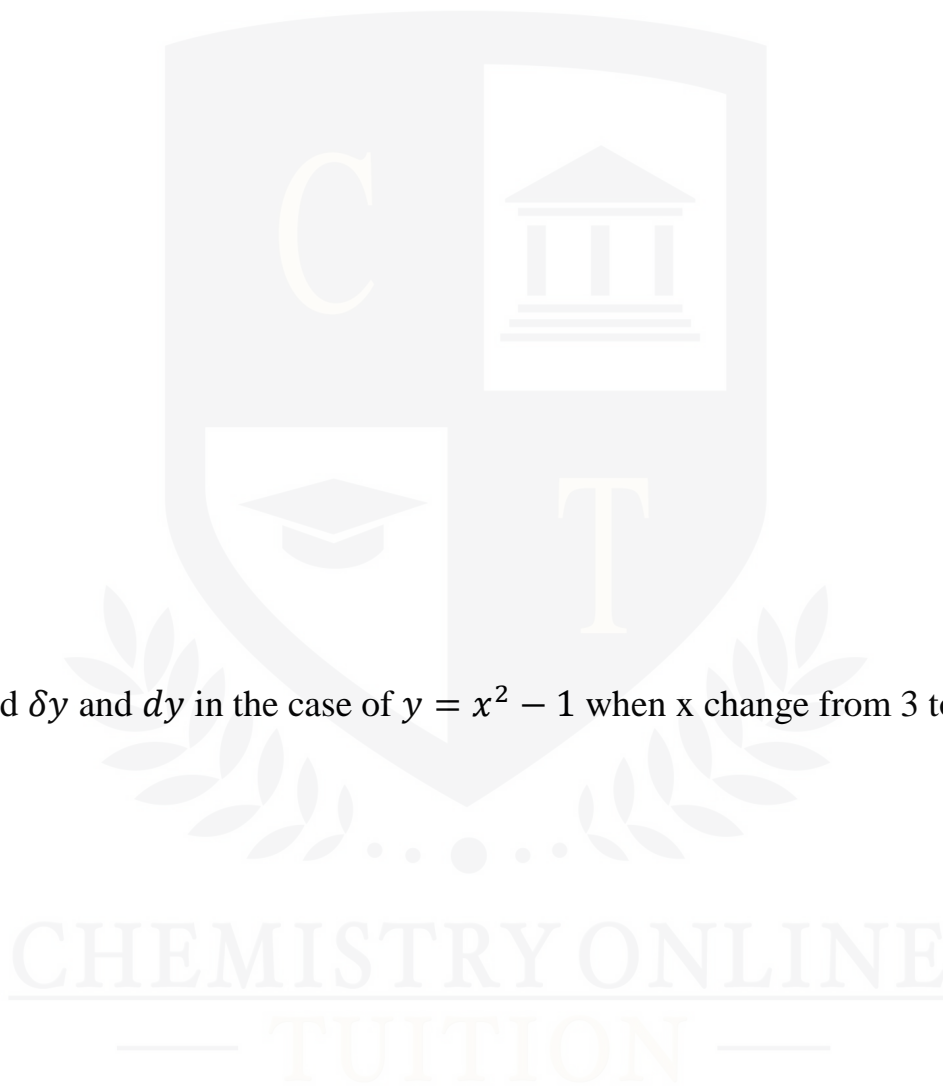
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7. Use differentials to approximate the values of  $\sqrt[4]{17}$

[3]

8. Find  $\delta y$  and  $dy$  in the case of  $y = x^2 - 1$  when  $x$  change from 3 to 3.02

[4]



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- Founder & CEO of Chemistry Online Tuition Ltd.
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