



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

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# **PURE MATH**

## **ALGEBRA AND FUNCTION**

<b>Level &amp; Board</b>	<b>EDEXCEL (A-LEVEL)</b>
<b>TOPIC:</b>	<b>FUNCTIONS</b>
<b>PAPER TYPE:</b>	<b>QUESTION PAPER - 4</b>
<b>TOTAL QUESTIONS</b>	<b>8</b>
<b>TOTAL MARKS</b>	<b>38</b>

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**Questions****Q1.**

The function  $f$  is defined by

$$f(x) = 2^x - 1, x \in \mathbb{R}, x \geq -1$$

- (a) state the range of  $f$

(1)

- (b) Find an expression for  $f^{-1}(x)$  and state its domain

(4)

**(Total for question = 5 marks)**

**Q2.**

The function  $f$  is defined by

$$g(x) = x^2 + 3x + 5 - 4, x \in \mathbb{R}, x \geq 2$$

- (a) state the range of  $f$

(2)

- (b) Find an expression for  $f^{-1}(x)$  and state its domain

(4)

**(Total for question = 6 marks)**

I am Sorry !!!!!

**Q3.**

The function  $f$  is defined by

$$h(x) = x^3 - 2x^2 + 4, x \in \mathbb{R}$$

(a) state the range of  $f$

(3)

(b) Find an expression for  $f^{-1}(x)$  and state its domain

(3)

**(Total for question = 6 marks)**

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**Q4.**The function  $f$  is defined by

$$p(x) = x^2 + 1, x \in \mathbb{R}, x \leq 3$$

- (a) state the range of
- $f$

(2)

- (b) Find an expression for
- $f^{-1}(x)$
- and state its domain

(2)

**(Total for question = 4 marks)****Q5.**The function  $f$  is defined by

$$r(x) = \log_2(x + 4), x \in \mathbb{R}, x > -4$$

- (a) state the range of
- $f$

(2)

- (b) Find an expression for
- $f^{-1}(x)$
- and state its domain

(2)

**(Total for question = 4 marks)**

**Q6.**

The function  $f$  is defined by

$$t(x) = x^3 + 2x^2 - x - 3, x \in \mathbb{R},$$

- (a) state the range of  $f$  (2)
- (b) Find an expression for  $f^{-1}(x)$  and state its domain (2)

**(Total for question = 4 marks)**

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**Q7.**The function  $f$  is defined by

$$v(x) = \log_3(|x| + 2), x \in \mathbb{R},$$

- (a) state the range of  $f$

**(4)****(Total for question = 4 marks)****Q8.**The function  $f$  is defined by

$$g(x) = \frac{1}{x-1}, x \in \mathbb{R} x \neq 1$$

- (a) state the range of  $f$

**(2)**

- (b) Find an expression for  $f^{-1}(x)$  and state its domain

**(3)****(Total for question = 5 marks)**

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