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## **PURE MATH**

## **ALGEBRA AND FUNCTION**

Level & Board	EDEXCEL (A-LEVEL)
TOPIC:	FUNCTIONS
PAPER TYPE:	QUESTION PAPER - 5
TOTAL QUESTIONS	8
TOTAL MARKS	38

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## **Questions**

Q1.

The function f is defined by

$$h(x) = e^x, x \in \mathbb{R}$$

(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)

**Q2.** 

The function f is defined by

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

(a) state the range of f

**(2)** 

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

**(2)** 

Q3.

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)** 

**Q4.** 

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)

Q5.

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)** 

**Q6.** 

The function f is defined by

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

(a) state the range of f

**(2)** 

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

**(2)** 

**Q7.** 

The function f is defined by

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

(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)

**Q8.** 

The function f is defined by

$$r(x) = x^3 + 10, x \in \mathbb{R},$$

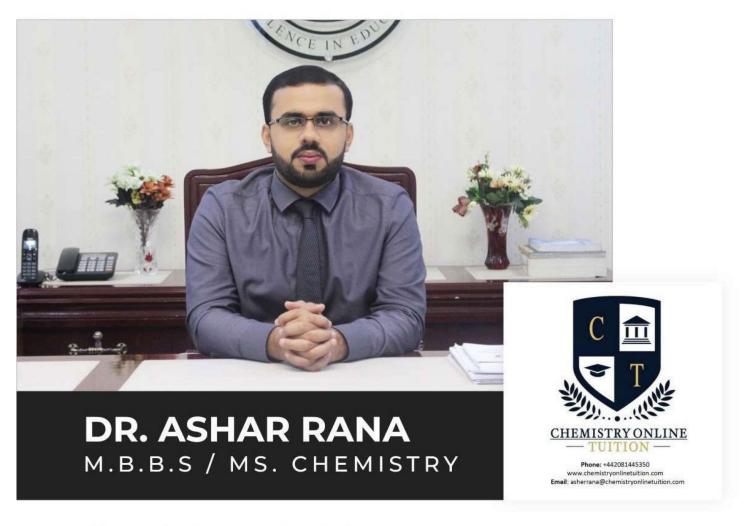
(a) state the range of f

**(2)** 

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

**(2)** 





- · Founder & CEO of Chemistry Online Tuition Ltd.
- Completed Medicine (M.B.B.S) in 2007
- Tutoring students in UK and worldwide since 2008
- · CIE & EDEXCEL Examiner since 2015
- · Chemistry, Physics, Math's and Biology Tutor

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