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PURE MATH

ALGEBRA AND FUNCTION

Level & Board	EDEXCEL (A-LEVEL)
TOPIC:	FUNCTIONS
PAPER TYPE:	QUESTION PAPER - 2
TOTAL QUESTIONS	8
TOTAL MARKS	38

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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)

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

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

- (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)

Q6.

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)

(Total for question = 4 marks)

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Q7.The function f is defined by

$$v(x) = \log_3(|x| - 10), x \in \mathbb{R},$$

- (a) state the range of f

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

$$r(x) = \ln e^x, x \in \mathbb{R} x \neq 1$$

- (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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- Founder & CEO of Chemistry Online Tuition Ltd.
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