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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

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

- (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)

Q3.

The function f is defined by

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

- (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)

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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)

(Total for question = 6 marks)

Q6.

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)

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



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