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# PURE MATH

## ALGEBRA AND FUNCTION

Level & Board	EDEXCEL (A-LEVEL)
TOPIC:	FUNCTIONS
PAPER TYPE:	QUESTION PAPER - 6
TOTAL QUESTIONS	8
TOTAL MARKS	38

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**Questions****Q1.**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)****Q2.**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)**

I am Sorry !!!!!

**Q3.**

The function  $f$  is defined by

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

- (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)**

**Q4.**

The function  $f$  is defined by

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

- (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 !!!!!

**Q5.**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)****Q6.**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 !!!!!

**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)**

I am Sorry !!!!!



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