

Functions

Difficulty: Easy

Question Paper 2

Level	IGCSE
Subject	Maths (0580/0980)
Exam Board	CIE
Topic	Algebra and graphs
Sub-Topic	Functions
Paper	Paper 2
Difficulty	Easy
Booklet	Question Paper 2

Time allowed: 34 minutes

Score: /26

Percentage: /100

Grade Boundaries:

CIE IGCSE Maths (0580)

A*	A	B	C	D	E
>88%	76%	63%	51%	40%	30%

CIE IGCSE Maths (0980)

9	8	7	6	5	4	3
>94%	85%	77%	67%	57%	47%	35%

Question 1

$$f(x) = 2x + 3 \quad g(x) = x^2$$

(a) Find $fg(6)$. [2]

(b) Solve the equation $gf(x) = 100$. [3]

(c) Find $f^{-1}(x)$. [2]

(d) Find $ff^{-1}(5)$. [1]

Question 2

$$f(x) = 5x + 4 \qquad g(x) = \frac{1}{2x}, \quad x \neq 0 \qquad h(x) = \left(\frac{1}{2}\right)^x$$

Find

(a) $fg(5)$, [2]

(b) $gg(x)$ in its simplest form, [2]

(c) $f^{-1}(x)$, [2]

(d) the value of x when $h(x) = 8$. [2]

Question 3

$$f(x) = x + \frac{2}{x} - 3, x \neq 0$$

$$g(x) = \frac{x}{2} - 5$$

Find

(a) $fg(18)$,

[2]

(b) $g^{-1}(x)$.

[2]

Question 4

$$f(x) = 4(x + 1) \qquad g(x) = \frac{x^3}{2} - 1$$

(a) Write down the value of x when $f^{-1}(x) = 2$.

[1]

(b) Find $fg(x)$. Give your answer in its simplest form.

[2]

(c) Find $g^{-1}(x)$.

[3]