

Functions

Difficulty: Hard

Question Paper 1

Level	IGCSE
Subject	Maths (0580/0980)
Exam Board	CIE
Topic	Algebra and graphs
Sub-Topic	Functions
Paper	Paper 2
Difficulty	Hard
Booklet	Question Paper 1

Time allowed: 27 minutes

Score: /21

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

$$f(x) = \frac{x}{4} - 3$$

$$g(x) = 6x - 7$$

$$h(x) = 2^x$$

(a) Work out the value of x when $f(x) = -0.5$.

[2]

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

[2]

(c) Work out the value of x when $h(x) = f(13)$.

[2]

Question 2

$$f(x) = x^2$$

$$g(x) = \frac{x-3}{2}$$

Find

(a) $f(-5)$,

[1]

(b) $gf(x)$,

[1]

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

[2]

Question 3

$$f(x) = 5 - 3x$$

(a) Find $f(6)$. [1]

(b) Find $f(x + 2)$. [1]

(c) Find $ff(x)$, in its simplest form. [2]

(d) Find $f^{-1}(x)$, the inverse of $f(x)$. [2]

Question 4

$$f(x) = 3x + 5$$

$$g(x) = x^2$$

(a) Find $g(3x)$.

[1]

(b) Find $f^{-1}(x)$, the inverse function.

[2]

(c) Find $ff(x)$.

Give your answer in its simplest form.

[2]