Using Algebra
Difficulty: Hard

Question Paper 1

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

Time allowed: **45 minutes**

Score: **/35**

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

Make x the subject of the formula.

$$y = \sqrt{x^2 + 1}$$

[3]

Question 2

$y = p^2 + qr$

(a) Find y when $p = -5$, $q = 3$ and $r = -7$. [2]

(b) Write p in terms of q, r and y. [2]

Question 3

Make b the subject of the formula.

[3]

$$c = \sqrt{a^2 + b^2}$$

Question 4

Simplify the expression.

[2]

$$(a^{\frac{1}{2}} - b^{\frac{1}{2}})(a^{\frac{1}{2}} + b^{\frac{1}{2}})$$

Question 5

Rearrange the formula $y = \frac{x+2}{x-4}$ to make x the subject. [4]

Question 6

Make w the subject of the formula.

$$c = \frac{4+w}{w+3}$$

[4]

Question 7

$$w = \frac{1}{\sqrt{LC}}$$

(a) Find w when $L = 8 \times 10^{-3}$ and $C = 2 \times 10^{-9}$.
Give your answer in standard form. [3]

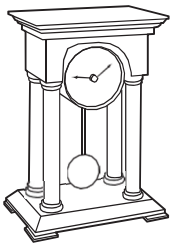
(b) Rearrange the formula to make C the subject. [3]

Question 8

$$ap = px + c$$

Write p in terms of a, c and x. [3]

Question 9



The length of time, T seconds, that the pendulum in the clock takes to swing is given by the formula

$$T = \frac{6}{\sqrt{(1+g^2)}}.$$

Rearrange the formula to make g the subject. [4]

Question 10

(a) $3^x = \frac{1}{3}$.

Write down the value of x. [1]

(b) $5^y = k$.

Find 5^{y+1}, in terms of k. [1]