

# Using Algebra

## Difficulty: Easy

### Question Paper 2

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

**Time allowed:** 41 minutes

**Score:** /32

**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

$$V = \frac{1}{3}Ah$$

(a) Find  $V$  when  $A = 15$  and  $h = 7$ . [1]

(b) Make  $h$  the subject of the formula. [2]

## Question 2

Rearrange the formula to make  $x$  the subject. [2]

$$y = x^2 + 4$$

### Question 3

(a) Expand and simplify  $(a + b)^2$ . [2]

(b) Find the value of  $a^2 + b^2$  when  $a + b = 6$  and  $ab = 7$ . [1]

### Question 4

A sphere has a volume of  $80 \text{ cm}^3$ .

Calculate the radius of the sphere.

[The volume,  $V$ , of a sphere with radius  $r$  is  $V = \frac{4}{3}\pi r^3$ .] [3]

## Question 5

(a)

$$y = \sqrt{8 + \frac{4}{x}}$$

Find  $y$  when  $x = 2$ .

Give your answer correct to 4 decimal places.

[2]

(b) Rearrange  $y = \sqrt{8 + \frac{4}{x}}$  to make  $x$  the subject.

[4]

## Question 6

Expand the brackets.

$$y(3 - y^3)$$

[2]

## Question 7

Make  $y$  the subject of the formula.

$$A = \pi x^2 - \pi y^2$$

[3]

## Question 8

Find  $r$  when  $(5)^{\frac{r}{3}} = 125$ .

[2]

## Question 9

Make  $w$  the subject of the formula.

$$t = 2 - \frac{3w}{a}$$

[3]

**Question 10**

$$T = 2\pi \sqrt{\frac{l}{g}}$$

(a) Find  $T$  when  $g = 9.8$  and  $l = 2$ . [2]

(b) Make  $g$  the subject of the formula. [3]