

# Indices

## Difficulty: Easy

### Question Paper 2

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

**Time allowed:** 44 minutes

**Score:** /34

**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

(a) Simplify  $x^8 \div x^2$ .

[1]

(b) Simplify  $\left(\frac{x^6}{27}\right)^{\frac{1}{3}}$ .

[2]

## Question 2

(a)  $(2^{24})^{\frac{1}{2}} = p^4$

Find the value of  $p$ .

[2]

(b) Simplify  $\frac{q^2 + q^2}{q^{\frac{1}{4}} \times q^{\frac{1}{4}}}$ .

[3]

## Question 3

Calculate  $\frac{\sqrt[3]{16}}{1.3^2}$ .

[1]

## Question 4

(a) Simplify  $(3125t^{125})^{\frac{1}{5}}$ . [2]

(b) Find the value of  $p$  when  $3^p = \frac{1}{9}$ . [1]

(c) Find the value of  $w$  when  $x^{72} \div x^w = x^8$ . [1]

## Question 5

Simplify.

$$3x^2y^3 \times x^4y$$
 [2]

## Question 6

(a)  $3^x = \sqrt[4]{3^5}$

Find the value of  $x$ .

[1]

(b) Simplify  $(32y^{15})^{\frac{2}{5}}$ .

[2]

## Question 7

(a) Simplify  $(64q^{-2})^{\frac{1}{2}}$ . [2]

(b)  $5^7 \div 5^9 = p^2$   
Find  $p$ . [2]

## Question 8

Write  $(27x^{12})^{\frac{1}{3}}$  in its simplest form. [2]

## Question 9

(a)  $\left(\frac{3}{8}\right)^{\frac{3}{8}} \times \left(\frac{3}{8}\right)^{\frac{1}{8}} = p^q$

Find the value of  $p$  and the value of  $q$ .

[2]

(b)  $5^{-3} + 5^{-4} = k \times 5^{-4}$

Find the value of  $k$ .

[2]

## Question 10

Simplify  $(256w^{256})^{\frac{1}{4}}$ .

[2]

## Question 11

Find the values of  $m$  and  $n$ .

(a)  $2^m = 0.125$  [2]

(b)  $2^{4n} \times 2^{2n} = 512$  [2]