GCSE Exam Questions

Index Notation, Square and Cube Numbers | Number

GCSE Exam Questions: Index Notation, Square and Cube

1) **(a)** Find the value of $\sqrt{81}$

----

(1)

(b) Find the value of $\sqrt{225}$

----

(1)

(c) Find the value of 13^2

----

(1)

(d) Find the value of x^0

----

(1)

(4 marks)

2) **(a)** Simplify

$4x^2 \times x \times 2x^7$

----

(2)

(b) Simplify $\dfrac{35x^{12}}{7x^5}$

----

(2)

(c) Simplify $(3x^3)^3$

----

(2)

(6 marks)

3) **(a)** Simplify $\dfrac{x^5 \times 20x^6}{4x^3}$

----

(2)

(b) Simplify $10x^{\frac{1}{4}} \times \dfrac{1}{2}x^{\frac{1}{5}}$

----

(2)

(4 marks)

thirdspacelearning.com   Helping schools close the maths attainment gap through targeted one to one teaching and flexible resources

1

GCSE Exam Questions: Index Notation, Square and Cube

4) (a) If $8 = 2^n$, find the value of n.

----

(1)

(b) Let $\dfrac{a^k \times a^{2k}}{\sqrt{a}} = a^n$. Find the value of n in terms of k.

----

(3)

(4 marks)

thirdspacelearning.com   Helping schools close the maths attainment gap through targeted one to one teaching and flexible resources

2

THIRD SPACE LEARNING

GCSE Exam Questions: Index Notation, Square and Cube Numbers Answers

	Question	Answer	Marks
1) (a)	Find the value of $\sqrt{81}$	(a) 9	**(1)**
(b)	Find the value of $\sqrt{225}$	(a) 15	**(1)**
(c)	Find the value of 13^2	(a) 169	**(1)**
(d)	Find the value of x^0	(a) 1	**(1)**
2) (a)	Simplify $4x^2 \times x \times 2x^7$	(a) **8 or** x^{10} $8x^{10}$	**(1)** **(1)**
(b)	Simplify $\dfrac{35x^{12}}{7x^5}$	(a) **5 or** x^7 $5x^7$	**(1)** **(1)**
(c)	Simplify $(3x^3)^3$	(a) **27 or** x^9 $27x^9$	**(1)** **(1)**
3) (a)	Simplify $\dfrac{x^5 \times 20x^6}{4x^3}$	(a) **5 or** x^3 $5x^3$	**(1)** **(1)**
(b)	Simplify $10x^{\frac{1}{4}} \times \frac{1}{2}x^{\frac{1}{5}}$	(a) **5 or** $x^{\frac{9}{20}}$ $5x^{\frac{9}{20}}$	**(1)** **(1)**
4) (a)	If $8 = 2^n$, find the value of n.	(a) 3	**(1)**
(b)	Let $\dfrac{a^k \times a^{2k}}{\sqrt{a}} = a^n$ Find the value of n in terms of k.	(a) a^{3k} **seen** $a^{\frac{1}{2}}$ **seen** $n = 3k - \dfrac{1}{2}$ or $a^{3k-\frac{1}{2}}$	**(1)** **(1)** **(1)**

thirdspacelearning.com   Helping schools close the maths attainment gap through targeted one to one teaching and flexible resources

3

Where to go next?

For more diagnostic questions, and GCSE maths revision resources and worksheets to support students in fixing any misconceptions take a look at the free Third Space Learning GCSE maths revision pages.

Scan the QR code to discover our library of FREE GCSE maths revision resources

Do you have KS4 students who need additional support in maths?

Our specialist tutors will help students to develop the skills they need to succeed at GCSE in weekly one to one online revision lessons. Trusted by secondary schools across the UK.

Visit thirdspacelearning.com to find out more.

THIRD SPACE
LEARNING