



# MATHS

## BOOKS - RS AGGARWAL MATHS (HINGLISH)

### CUBES AND CUBE ROOTS

#### Solved Examples

1. Show that 189 is not a perfect cube.



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2. Is 216 a perfect cube? What is that number whose cube is 216?



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3. What is the smallest number by which 3087 may be multiplied so that the product is a perfect cube?

A. 2

B. 3

C. 1

D. 7

**Answer: B**



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4. What is the smallest number by which 392 may be divided so that the quotient is a perfect cube?



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5. Find the cube of each of the following

(i) (-7) (ii)  $1\frac{2}{3}$

(iii) 2.5 (iv) 0.05



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6. find the value of  $(29)^3$  by short cut method



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7. Find the value of  $(71)^3$  using the short-cut method.



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8. Evaluate  $\sqrt[3]{216}$ .

A. 2

B. 3

C. 5

D. 6

**Answer: D**



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9. Evaluate  $\sqrt[3]{2744}$ .

A. 13

B. 14

C. 15

D. 16

**Answer: B**



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10. Find the cube root of  $(-1000)$ .

A. 10

B. 100

C.  $-100$

D.  $-10$

**Answer:** *D*



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11. Evaluate  $\sqrt[3]{125 \times 64}$ .

A. 20

B. 25

C. 30

D. 40

**Answer: A**



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12. Evaluate  $\sqrt[3]{216 \times (-343)}$ .

A.  $-45$

B.  $-42$

C.  $-47$

D.  $-44$

**Answer: B**



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### 13. Evaluate

(i)  $\sqrt[3]{\frac{216}{2197}}$

(ii)  $\sqrt[3]{\frac{-125}{512}}$



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## Exercise 4 A

### 1. Evaluate:

(a)  $(8)^3$

(b)  $(15)^3$

(c)  $(21)^3$

(d)  $(60)^3$



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2. Evaluate (i)  $(0.2)^3$  (ii)  $(3.5)^3$  (iii)  $(0.8)^3$



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3. Evaluate  $\left(\frac{4}{7}\right)^3$

A.  $\left(\frac{4}{7}\right)^3$

B.  $\left(\frac{10}{11}\right)^3$

C.  $\left(\frac{1}{15}\right)^3$

D.  $\left(1\frac{3}{10}\right)^3$

**Answer: A::B::C::D**



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**4.** Which of the following number are perfect cubes? In case of perfect cube, find the whose cubes is the given number.

(i) 125 (ii) 243 (iii) 343 (iv) 256 (v) 8000 (vi) 9261

(vii) 5324 (viii) 3375



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5. Which of the following cubes of even numbers?

(i) 216 (ii) 729 (iii) 512 (iv) 3375 (v) 1000



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6. Which of the following are the cubes of odd numbers?

(i) 125 (ii) 343 (iii) 1728 (iv) 4096 (v) 9261



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7. Find the smallest number by which 1323 must be multiplied so that the product is a perfect cube.

A. 5

B. 6

C. 7

D. 8

**Answer: C**



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**8.** Find the smallest number by which 2560 must be multiplied so that the product is a perfect cube.



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**9.** What is the smallest number by which 1600 must be divided so that the quotient is a perfect cube.



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**10.** What is the smallest number by which 8788 must be divided so that the quotient is a perfect cube.

A. 6

B. 8



C. 4

D. 3

**Answer: C**



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## Exercise 4 B

1. Find the value using the short-cut method:

$$(25)^3$$

A. 15625

B. 15635

C. 15645

D. 15655

**Answer: A**



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**2. Find the value of:**

$$(47)^3$$

A. 103822

B. 103823

C. 103824

D. 103825

**Answer: B**



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**3. Find the value using the short-cut method:**

$$(68)^3$$



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4. Find the value using the short-cut method:

$$(84)^3$$



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## Exercise 4 C

1. Evaluate:  $(64)^{\frac{1}{3}}$



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2. Evaluate  $\sqrt[3]{343}$

A. 5

B. 7

C. 8

D. 2

**Answer: B**



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3. Evaluate  $\sqrt[3]{729}$



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4. Evaluate  $\sqrt[3]{1728}$

A. 13

B. 12

C. 14

D. 15

**Answer: B**



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5. Evaluate  $\sqrt[3]{9261}$

A. 23

B. 22

C. 21

D. 27

**Answer: C**



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6. Evaluate  $\sqrt[3]{4096}$

A. 19

B. 17

C. 18

D. 16

**Answer: D**



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7. Find the cube root of 8000.

A. 20

B. 40

C. 60

D. 80

**Answer: A**



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8. Evaluate  $\sqrt[3]{3375}$

A. 15

B. 25

C. 30

D. 35

**Answer: A**



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9. Evaluate  $\sqrt[3]{-216}$



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10. Evaluate  $\sqrt[3]{-512}$



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11.  $\sqrt[3]{-1331}$

A.  $-8$

B.  $-9$

C.  $-12$

D.  $-11$

**Answer: D**



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12. Evaluate  $\sqrt[3]{\frac{27}{64}}$



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13. Evaluate  $\sqrt[3]{\frac{125}{216}}$



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14. Evaluate  $\sqrt[3]{\frac{-27}{125}}$



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15. Evaluate  $\sqrt[3]{\frac{-64}{343}}$



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16. Evaluate  $\sqrt[3]{64 \times 729}$

A. 34

B. 35

C. 36

D. 37

**Answer: C**



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17. Evaluate  $\sqrt[3]{\frac{729}{1000}}$



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18. Evaluate  $\sqrt[3]{\frac{-512}{343}}$



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## Exercise 4 D

1. Which of the following numbers is a perfect cube?

A. 141

B. 294

C. 216

D. 496

**Answer: C**



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2. Which of the following numbers is a perfect cube?

A. 1152

B. 1331

C. 2016

D. 739

**Answer: B**



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3.  $\sqrt[3]{512} = ?$

A. 6

B. 7

C. 8

D. 9

**Answer: C**



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4.  $\sqrt[3]{125 \times 64} = ?$

A. 100

B. 40

C. 20

D. 30

**Answer: C**



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5.  $\sqrt[3]{\frac{64}{343}} = ?$

A.  $\frac{4}{9}$

B.  $\frac{4}{7}$

C.  $\frac{8}{7}$

D.  $\frac{8}{21}$

**Answer: B**



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6.  $\sqrt[3]{\frac{-512}{729}} = ?$

A.  $\frac{-7}{9}$

B.  $\frac{-8}{9}$

C.  $\frac{7}{9}$

D.  $\frac{8}{9}$

**Answer: B**



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7. By what least number should 648 be multiplied to get a perfect cube?

A. 3

B. 6

C. 9

D. 8

**Answer: C**



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8. By what least number should 1536 be multiplied to get a perfect cube?

A. 3

B. 4

C. 6

D. 8

**Answer: A**



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9.  $\left(1\frac{3}{10}\right)^3 = ?$

A.  $1\frac{27}{1000}$

B.  $2\frac{27}{1000}$

C.  $2\frac{197}{1000}$

D. None of these

**Answer: C**



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10.  $(0.8)^3 = ?$

A. 51.2

B. 5.12

C. 0.512

D. None of these

**Answer: C**



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1. Evaluate  $\left(1\frac{2}{5}\right)^3$



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2. Evaluate  $\sqrt[3]{4096}$

A. 18

B. 12

C. 14

D. 16

**Answer: D**



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**3. Evaluate  $\sqrt[3]{216 \times 343}$**

A. 36

B. 45

C. 42

D. 49

**Answer: C**



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4. Evaluate  $\sqrt[3]{\frac{-64}{125}}$



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5.  $\left(1\frac{3}{4}\right)^3 = ?$

A.  $1\frac{27}{64}$

B.  $2\frac{27}{64}$

C.  $5\frac{23}{64}$

D. None of these

**Answer: C**



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**6.** Which of the following numbers is a perfect cube?

A. 121

B. 169

C. 196

D. 216

**Answer: D**



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7.  $\sqrt[3]{216 \times 64} = ?$

A. 64

B. 32

C. 24

D. 36

**Answer: C**



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8.  $\sqrt[3]{\frac{-343}{729}} = ?$

A.  $\frac{7}{9}$

B.  $\frac{-7}{9}$

C.  $\frac{-9}{7}$

D.  $\frac{9}{7}$

**Answer: B**



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9. By what least number should 324 be multiplied to get a perfect cube?

A. 12

B. 14

C. 16

D. 18

**Answer: D**





10.  $\frac{\sqrt[3]{64}}{\sqrt[3]{125}} = ?$

A.  $\frac{3}{5}$

B.  $\frac{4}{5}$

C.  $\frac{2}{5}$

D. None of these

**Answer: B**



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**11.** Which of the following is a cube of an odd number?

A. 216

B. 512

C. 343

D. 1000

**Answer: C**



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## Test Paper 4 Fill In The Blanks

1.  $\sqrt[3]{ab} = (\sqrt[3]{a}) \times (\dots\dots\dots)$

A.  $\sqrt[3]{a}$

B.  $\sqrt[2]{a}$

C.  $\frac{1}{\sqrt[3]{b}}$

D.  $\sqrt[3]{b}$

**Answer: D**



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2.  $\sqrt[3]{\frac{a}{b}} = \dots\dots\dots$



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3.  $\sqrt[3]{-x} = \dots\dots\dots$



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4.  $(0.5)^3 = \dots\dots\dots$

A. 125

B. 0.125

C. 1.25

D. 12.5

**Answer: B**



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