MATHS

BOOKS - MTG IIT JEE FOUNDATION

CUBES AND CUBE ROOTS

Illustration

1. Show that 189 is not a perfect cube.

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2. is 1296 a perfect cube or not ?

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3. Examine if 1512 is a perfect cube .If not find the smallest number by which it must be multiplied so that the product is a perfect cube .Also find the smallest number by which it must be divided so that the quotient is a perfect cube.

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4. Find the cube of (i)4 (ii) 6 (iii) 12.

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5. Find the cube of (i) 3 (ii) 9 (iii) 13.

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6. Find the value of $1^3 + 2^3 + \ldots\ldots + 7^3$

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7. Write the digits in the unit place for the cube of each of the given numbers:

27

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8. Find the cube roots of the following numbers:

(i)4096 (ii)857375

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9. Find the cube root of the following:

(a) 4913 (b) 19683

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

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

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12. Evaluate

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

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

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13. Evaluate : $\frac{\sqrt[3]{15625 \times 216}}{\sqrt[3]{3375}}$

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Solved Examples

1. Is 53240 a perfect cube? If not, then by which smallest natural number should 53240 be divided so that the quotient is a perfect cube?

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2. state true or false : Is 246 a perfect cube?

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3. Using the method of successive subtraction examine whether or not the following numbers are perfect cubes: 130 (ii) 345 (iii) 792 (iv) 1331

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4. Is 68600 a perfect cube? If not, find the smallest number by which 68600 must be multiplied to get a perfect cube.

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5. Prove that if a number is doubled, then its cube is eight times the cube of the given number.

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6. Evaluate the following : $\left\{\left(24^2+7^2\right)^{\frac{1}{2}}\right\}^3$ (ii) $\left\{\sqrt{15^2+8^2}\right\}^3$????

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7. Find the value of. $\sqrt[3]{392} \times \sqrt[3]{448}$.

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8. Is $\frac{27}{125}$ a cube of a rational number ?

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9. Find the cube root of 1728.

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10. Find the cube root of 1.331.

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11. Observe the following pattern : $1^3 = 1$

$1^3 + 2^3 = (1 + 2)^2$

$1^3 + 2^3 + 3^3 = (1 + 2 + 3)^2$ Write the next three rows and calculate the value of $1^3 + 2^3 + 3^3 + \ + 9^3 + 10^3$ by the above pattern.

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12. Find the volume of a cube whose surface area is 150 m^2.

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13. For a big icecream of volume $2744cm^3$, Mukti wants to make a box. What should be the edge of box so that the block can be put into it?

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14. Consider the following pattern:

$2^3 - 1^3 = 1 + 2 \times 1 \times 3$

$3^3 - 2^3 = 1 + 3 \times 2 \times 3$

$4^3 - 3^3 = 1 + 4 \times 3 \times 3$

Using the above pattern,find the value of the following :

$7^3 - 6^3$.

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15. Find the value of $(27 \times 2744)^{1/3}$

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Ncert Section Exercise 7 1

1. Which of the following numbers are not perfect cubes? (i) 216 (ii) 128 (iii) 1000 (iv) 100 (v) 46656

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2. Which of the following numbers are not perfect cubes? (i) 216 (ii) 128 (iii) 1000 (iv) 100

(v) 46656

Watch Video Solution

3. Which of the following numbers are not perfect cubes? (i) 216 (ii) 128 (iii) 1000 (iv) 100 (v) 46656

Watch Video Solution

4. Which of the following numbers are not perfect cubes? (i) 216 (ii) 128 (iii) 1000 (iv) 100

(v) 46656

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5. Which of the following numbers are not perfect cubes? (i) 216 (ii) 128 (iii) 1000 (iv) 100 (v) 46656

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6. Find the smallest number by which each of the following numbers must be multiplied to

obtain a perfect cube. (i) 243 (ii) 256 (iii) 72 (iv) 675 (v) 100

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Watch Video Solution

10. Find the smallest number by which each of the following numbers must be multiplied to obtain a perfect cube. (i) 243 (ii) 256 (iii) 72 (iv) 675 (v) 100

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11. Find the smallest number by which each of the following numbers must be divided to

obtain a perfect cube. (i) 81 (ii) 128 (iii) 135 (iv) 192 (v) 704

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12. Find the smallest number by which each of the following numbers must be divided to obtain a perfect cube. (i) 81 (ii) 128 (iii) 135 (iv) 192 (v) 704

 Watch Video Solution

13. Find the smallest number by which each of the following numbers must be divided to obtain a perfect cube. (i) 81 (ii) 128 (iii) 135 (iv) 192 (v) 704

Watch Video Solution

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15. Find the smallest number by which each of the following numbers must be divided to obtain a perfect cube. (i) 81 (ii) 128 (iii) 135 (iv) 192 (v) 704

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16. Parikshit makes a cuboid of plasticine of sides $5cm$, $2cm$, $5cm$. How many such cuboids will he need to form a cube?

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Ncert Section Exercise 7 2

1. Find the cube root of each of the following numbers by prime factorisation method. (i) 64 (ii) 512 (iii) 10648 (iv) 27000 (v) 15625 (vi) 13824 (vii) 110592 (viii) 46656 (ix) 175616 (x) 91125

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2. Find the cube root of each of the following numbers by prime factorisation method. (i) 64 (ii) 512 (iii) 10648 (iv) 27000 (v) 15625 (vi) 13824 (vii) 110592 (viii) 46656 (ix) 175616 (x) 91125

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3. Find the cube root of each of the following numbers by prime factorisation method. (i) 64 (ii) 512 (iii) 10648 (iv) 27000 (v) 15625 (vi) 13824 (vii) 110592 (viii) 46656 (ix) 175616 (x) 91125

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4. Find the cube root of each of the following numbers by prime factorisation method. (i) 64 (ii) 512 (iii) 10648 (iv) 27000 (v) 15625 (vi) 13824 (vii) 110592 (viii) 46656 (ix) 175616 (x) 91125

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5. Find the cube root of each of the following numbers by prime factorisation method. (i) 64

(ii) 512 (iii) 10648 (iv) 27000 (v) 15625 (vi) 13824

(vii) 110592 (viii) 46656 (ix) 175616 (x) 91125

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6. Find the cube root of each of the following numbers by prime factorisation method. (i) 64

(ii) 512 (iii) 10648 (iv) 27000 (v) 15625 (vi) 13824

(vii) 110592 (viii) 46656 (ix) 175616 (x) 91125

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7. Find the cube root of each of the following numbers by prime factorisation method. 110592

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8. Find the cube root of each of the following numbers by prime factorisation method. 46656

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9. Find the cube root of each of the following numbers by prime factorisation method. 175616

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10. Find the cube root of each of the following numbers by prime factorisation method. 91125

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Ncert Section Exercise 7 2 State True Or False

1. Cube of an odd number is even.

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2. State true or false. (i) Cube of any odd number is even. (ii) A perfect cube does not end with two zeros. (iii) If square of a number ends with 5, then its cube ends with 25. (iv) There is no perfect cube which ends with 8. (v)

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4. State true or false.

(i) Cube of any odd number is even.

(ii) A perfect cube does not end with two zeros.

(iii) If square of a number ends with 5, then its cube ends with 25.

(iv) There is no perfect cube which ends with 8.

(v) The cube of a two digit number may be a three digit number.

(vi) The cube of a two digit number may have seven or more digits.

(vii) The cube of a single digit number may be a single digit number.

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5. State true or false. (i) Cube of any odd number is even. (ii) A perfect cube does not end with two zeros. (iii) If square of a number ends with 5, then its cube ends with 25. (iv) There is no perfect cube which ends with 8. (v)

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Ncert Section Exercise 7 2

1. State true or false. (i) Cube of any odd number is even. (ii) A perfect cube does not end with two zeros. (iii) If square of a number ends with 5, then its cube ends with 25. (iv) There is no perfect cube which ends with 8. (v)

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2. You are told that 1,331 is a perfect cube. Can you guess without factorisation what is its cube root? Similarly, guess the cube roots of 4913, 12167, 32768.

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Exercise Multiple Choice Question Level 1

1. Which of the following number is a prefect cube?

A. 1525

B. 1728

C. 1458

D. 3993

Answer: B

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2. Which of the following numbers is not a perfect cube?

A. 2197

B. 512

C. 2916

D. 343

Answer: C

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3. What least number must be multiplied to 3456 so that the priduct decomes a perfect cube?

A. 2

B. 3

C. 4

D. 6

Answer: C

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4. $\sqrt[3]{5832} = ?$

A. 22

B. 18

C. 16

D. 14

Answer: B

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5. Evaluate : $\sqrt[3]{\frac{1728}{2744}}$

A. $\frac{6}{11}$

B. $\frac{6}{7}$

C. $\frac{3}{4}$

D. $\frac{12}{17}$

Answer: B

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6. $\sqrt[3]{4\frac{12}{125}}$ equals

A. $1\frac{3}{5}$

B. $1\frac{2}{5}$

C. $7\frac{1}{5}$

D. $7\frac{2}{3}$

Answer: A

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7. $\sqrt[3]{144} \times \sqrt[3]{12}$ equals

A. 12

B. 14

C. 13

D. 6

Answer: A

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8. Possible unit digit of cube root of a number ending with 5 is

A. 0

B. 5

C. 7

D. 9

Answer: B

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9. The surface area of a cube is $384cm^2$. What is its volume?

A. $1296cm^3$

B. $648cm^3$

C. $846cm^3$

D. $512cm^3$

Answer: D

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10. if $(25)^x = 3125$,then x equals

A. $2/5$

B. $5/2$

C. $1/4$

D. $1/5$

Answer: B

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11. By what least number should 9720 be multiplied to get a perfect cube?

A. 15

B. 25

C. 5

D. 75

Answer: D

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12. if $\sqrt[3]{(156+x)} = 12$,them the value of x is

A. 1570

B. 1572

C. 1560

D. 1512

Answer: B

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13. The value of $\frac{\sqrt[3]{531441}}{\sqrt[3]{729}}$ is

A. 7

B. 8

C. 9

D. 10

Answer: C

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14. if $\sqrt[3]{x-12}=19$,then the value of x is

A. 6871

B. 6072

C. 6889

D. 5080

Answer: A

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15. The value of $(-0.4)^3$ is

A. 0.640

B. 0.064

C. -0.064

D. -0.640

Answer: C

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16. $3^3 - (-0.6)^3 =$

A. 27.216

B. 26.784

C. -26.784

D. -27.216

Answer: A

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17. $\frac{16}{9} \times \left(-1\frac{1}{2} \right)^3 =$

A. -12

B. -6

C. $-\frac{8}{3}$

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

Answer: B

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18. Which of the following is the cube of an integer?

A. 200

B. 9

C. 512

D. 1024

Answer: C

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19. $\sqrt[3]{3-\frac{17}{27}}=$

A. $\frac{4}{3}$

B. $\frac{3}{4}$

C. $\frac{1}{4}$

D. $\frac{1}{2}$

Answer: A

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20. $\sqrt[3]{0.125} + 3 =$

A. 8

B. 3.5

C. 2

D. 0.35

Answer: B

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21. $\sqrt[3]{3\frac{3}{8}} =$

A. $\frac{3}{2}$

B. $\frac{3}{4}$

C. $\frac{1}{4}$

D. $\frac{1}{3}$

Answer: A

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22. Calculate the value of $\sqrt[3]{64} + \sqrt{9^2}$

A. 4

B. 3

C. 13

D. 77

Answer: C

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23. Calculate the value of $\sqrt[3]{\frac{192}{81}}$

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

B. $\frac{4}{3}$

C. $\frac{3}{2}$

D. $\frac{13}{9}$

Answer: B

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24. $\sqrt[3]{2744} + \sqrt{9^2} =$

A. 0

B. 21

C. 23

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

Answer: C

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25. Find the value of $\sqrt[3]{512} \times \sqrt[3]{3.375}$

A. 12

B. 9.5

C. 8

D. 1.5

Answer: A

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26. Which of the following numbers are cubes of negative integers -64 (ii) -1056 (iii) -2197 -2744 (v) 42875

A. 396

B. 4096

C. -81

D. -2744

Answer: D

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27. Which of the following numbers is the cube of an odd number?

A. 729

B. 2744

C. 32768

D. 1728

Answer: A

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28. Which of the following numbers is the cube of an even number?

A. 6859

B. 649

C. 13824

D. 42875

Answer: C

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29. The symbol $\sqrt[3]{\ }$ denotes

A. square

B. cube

C. square root

D. cube root

Answer: D

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30. Which of the following is equal to 9?

A. $\sqrt{729}$

B. $3\sqrt{729}$

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

D. $(3)^3$

Answer: C

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31. Find the smallest number by which 392 must be multiplied so that the product is a perfect cube.

A. 5

B. 3

C. 2

D. 7

Answer: D

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32. Find the cube of $7\frac{2}{5}$

A. $\frac{50653}{125}$

B. $\frac{50652}{125}$

C. $\frac{50659}{125}$

D. $\frac{50658}{125}$

Answer: A

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33. The volume of a cube is $778688mm^3$. Find the measure of the edge.

A. 62 mm

B. 72 mm

C. 82 mm

D. 92 mm

Answer: D

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34. The cube root of 97336 is

A. 17

B. 18

C. 46

D. 23

Answer: C

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35. Find the side of a cube whose volume is $\frac{1331}{216}m^3$

A. $\frac{11}{6}m$

B. $\frac{11}{4}m$

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

D. $\frac{9}{4}m$

Answer: A

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Exercise Multiple Choice Question Level 2

1. What is the least number by which 13720 must be divided so that the quotient is a perfect cube?

A. 2

B. 3

C. 5

D. 6

Answer: C

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2. $\sqrt[3]{(0.000064)}$ is equal to

A. 0.04

B. 0.4

C. 0.004

D. 0.02

Answer: A

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3. The value of $\frac{(2.3)^3 - 0.027}{(2.3)^2 + 0.69 + 0.09}$ is 2 (b)

3 (c) 2.327 (d) 2.273

A. 2

B. 2.273

C. 2.327

D. none of these

Answer: A

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4. The value of $\frac{\sqrt[3]{125} \times \sqrt[3]{64}}{\sqrt[3]{125} - \sqrt[3]{64}}$ is

A. 30

B. 40

C. 20

D. 50

Answer: C

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5. The value of $\frac{\sqrt[3]{8}+\sqrt[3]{27}-\sqrt[3]{343}}{(2)^2-3}$ is

A. 7

B. -2

C. 8

D. -5

Answer: B

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6. Observe the pattern given below

$1^3 = 1$

$2^3 = 3 + 5$

$3^3 = 7 + 9 + 11$

$4^3 = 13 + 15 + 17 + 19$

According to this pattern, the number of consecutive odd numbers whose sum equals 9^3 is

A. 3

B. 9

C. 12

D. 15

Answer: B

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7. Evaluate : $\sqrt[3]{57\frac{132}{343}}$

A. $\frac{27}{7}$

B. $\frac{23}{7}$

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

D. $\frac{27}{8}$

Answer: A

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8. The volume of a cubical box is 474.552 cubic metres. Find the length of each side of the box.

A. 9.8 m

B. 7.8 m

C. 7.4 m

D. 9.4 m

Answer: B

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9. The one's digit of 107^3 is

A. 3

B. 7

C. 9

D. 0

Answer: A

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10. Evalutions : $\sqrt[3]{27} + \sqrt[3]{0.008}$

A. 3.4

B. 3.1

C. 3.3

D. 3.2

Answer: D

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11. Evalutions : $\sqrt[3]{\sqrt{0.000729}}$

A. 0.2

B. 0.3

C. 0.5

D. 0.4

Answer: B

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12. Find the smallest number which should be multiplied by 1575 so that the product becomes a perfect cube.

A. 315

B. 105

C. 735

D. 147

Answer: C

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13. The value of $\sqrt[3]{\frac{343}{1331}}$ is

A. $\frac{7}{5}$

B. $\frac{7}{11}$

C. $\frac{5}{11}$

D. $\frac{11}{7}$

Answer: B

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14. The smallest number by which 33075 must be multiplied to obtain a perfect cube is

A. 12

B. 35

C. 6

D. 15

Answer: B

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15. Evalution : $\sqrt[3]{32.768}$

A. 3.2

B. 4.2

C. 5.2

D. 1.2

Answer: A

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Exercise Assertion Reason Type

1. Write the cubes of all natural numbers between 1 and 10 and verify the following statements : Cubes of all odd natural numbers are odd. Cubes of all even natural numbers are even.

A. If both asseration and reason are true and reason is the correct explanation of assertion.

B. If both assertion and reason are true but reason is not the correct explanation of

assertion.

C. If assartion is true but reason is false.

D. If assertion is false but reason is true.

Answer: Assertion : True; Reason : False

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2. Assertion : $14^3 - 2744, 24^3 - 13822$

Reason : The digits of number end with 4, then cubes of the number ends with same digit 4.

A. If both asseration and reason are true and reason is the correct explanation of assertion.

B. If both assertion and reason are true but reason is not the correct explanation of assertion.

C. If assartion is true but reason is false.

D. If assertion is false but reason is true.

Answer: Assertion : false; Reason : True

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3. Write the cubes of 5 natural number which are of form $3n+1\left(e\dot{g}.\ 4,7,10\right)$ and verify the following : The cube of a natural number of the form $3n+1$ is a natural number of the same form i.e. when divided by 3 it leaves the remainder 1

A. If both asseration and reason are true and reason is the correct explanation of assertion.

B. If both assertion and reason are true but reason is not the correct explanation of assertion.

C. If assartion is true but reason is false.

D. If assertion is false but reason is true.

Answer: correct explanation of assertion.

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4. Assertion : We know that

$9 \div 3 = 3$ **and** $9^3 \div 3^3 = 27$

$8 \div 2 = 4$ **and** $8^3 \div 2^3 = 64$

Reason : If a divides b, then a^3 **divides** b^3**.**

A. If both asseration and reason are true and reason is the correct explanation of assertion.

B. If both assertion and reason are true but reason is not the correct explanation of assertion.

C. If assartion is true but reason is false.

D. If assertion is false but reason is true.

Answer: correct explanation of assertion.

5. Assertion : The unit digit of cube of 528, 38 and 1298 is 2.

Reason : If a number ends with 8, then its cube ends with 2.

A. If both asseration and reason are true and reason is the correct explanation of assertion.

B. If both assertion and reason are true but reason is not the correct explanation of assertion.

C. If assartion is true but reason is false.

D. If assertion is false but reason is true.

Answer: correct explanation of assertion.

Exercise Comprehension Type

1. Three numbers are to one another $2:3:4$. The sum of their cubes is 33957. Find the numbers.

A. 2, 4, 8

B. 14,21,28

C. 6,9,18

D. 5, 10, 15

Answer: b

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2. Three numbers are in the ratio $2:3:5$ and the sum of these numbers is 800. Find the numbers

A. 8, 64, 512

B. 2744, 726, 8849

C. 2744, 9262, 21952

D. 7261, 125, 1000

Answer: c

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3. The volume of cube is $9261000\ m^3$. Find the side of the cube.

A. 210 m

B. 200 m

C. 220 m

D. 250 m

Answer: a

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4. The volume of a cube is 9261000 m^2

If the volume of the cube is increased by 1387000 m^3 then the new side of the cube is

A. 250 m

B. 200 m

C. 210 m

D. 220 m

Answer: d

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5. The volume of a cube is 9261 m^2, then area of one face of the cube will be

A. 216 m^2

B. 36 m^2

C. 441 m^2

D. 24 m^2

Answer: C

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Exercise Subjective Problems Very Short Answer Type

1. Is 1024 a perfect cube?

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2. Find the unit's digit of cube of 8888.

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3. Is 196 a perfect cube?

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4. Find the smallest number by which 96 must be multiplied so that the product is a perfect cube.

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5. What is the smallest number by which 3087 must be divided so that the quotient is a perfect cube ?

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6. Show that 9261 is a perfect cube.

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7. Consider the following pattern.

$2^3 - 1^3 = 1 + 2 \times 1 \times 3$

$3^3 - 2^3 = 1 + 3 \times 2 \times 3$

$4^3 - 3^3 = 1 + 4 \times 3 \times 3$

Using the above pattern find the value of

$7^3 - 6^3$

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8. Find the cube root of 10648 through Prime factorization

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9. Find the cube root of 0.003375.

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10. Evaluate the following : $\left\{\left(24^2+7^2\right)^{\frac{1}{2}}\right\}^3$

(ii) $\left\{\sqrt{15^2+8^2}\right\}^3$????

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Exercise Subjective Problems Short Answer Type

1. Is 8000 a perfect cube? What is the number whose cube is 8000?

2. Find the cube root of 389017.

3. Find the cube root of 46656.

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4. Find the smallest number which when multiplied with 3600 will make the product a perfect cube. Further, find the cube root of the product.


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5. What is the smallest number by which 8192 must be divided so that quotient is a perfect

cube? Also find the cube root of the quotient so obtained.

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6. Three numbers are in the ratio 1 : 2 : 3 : The sum of their cubes is 98784. Find the numbers.

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7. Find the cube root of $\frac{0.064}{3.375}$.

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8. Find the cube root of 216×1728.

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9. Find the cube root of 343000.

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10. Find the cube root of 262144 by prime factorisation method.

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Exercise Subjective Problems Long Answer Type

1. Find the cube root of 85184 by prime factorisation method.

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2. Find the cube root of 2300×5290.

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3. Evaluate : $\sqrt[3]{1372} \times \sqrt[3]{1458}$.

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4. Find the cube root of $\frac{3375}{2744}$

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5. Find the cube root of 110592.

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Exercise Integer Numerical Value Type

1. If $\sqrt[3]{\frac{a^6 \times b^3 \times c^{21}}{c^9 \times a^{12}}} = \frac{bc^k}{a^{k/2}}$, then k=_____.

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2. The cube of the number ρ is 16 times the number. Than find ρ where $\rho \neq 0$ and $\rho \neq -4$.

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3. The digit in the units place for the cube of a four digit number of the form xyz8

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4. The digit in the units place for the cube of the number 1234567 is _____ .

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5. A number is multiplied 3 times by itself and then 61 is subtracted from the product obtained. If the final result is 9200, then the number is

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6. $\sqrt[3]{0.125} + \sqrt[3]{0.729} = \frac{n}{10}$. Find n.

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7. If a=2b and b=4c, then $\sqrt[3]{\frac{a^2}{16bc}} = \_\_\_$.

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8. If $\sqrt[3]{\frac{3^6 \times 4^3 \times 2^6}{8^9 \times 2^3}} = \left(\frac{3}{8}\right)^k$,then k = _____

.

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9. The cube of a number ending in 3 ends in

_____

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10. The cube root of 10648 is

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Olympiad Hots Corner

1. Simplify : $\left(\sqrt[6]{27}-\sqrt{6\frac{3}{4}}\right)^2$

A. $\frac{3}{4}$

B. $\frac{\sqrt{3}}{2}$

C. $\frac{\sqrt[3]{3}}{4}$

D. $\frac{3}{2}$

Answer: a

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2. By what least number 3600 must be multiplied to make it a perfect cube?

A. 60

B. 50

C. 300

D. 450

Answer: D

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3. The value of $\sqrt{\frac{0.00001225}{0.00005329}} - \sqrt[3]{\sqrt{0.000064}}$ is

A. 0.2

B. 0.279

C. 0.479

D. 0

Answer: B

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4. Evalution : $\sqrt[3]{-\frac{0.000008}{-0.000216}}$

A. 3

B. $-1/3$

C. -3

D. $1/3$

Answer: D

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5. Evalution : $\sqrt[3]{0.008} - \sqrt[3]{-512} + \sqrt[3]{2.197}$

A. 9.3

B. -6.5

C. 9.5

D. 6.5

Answer: C

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6. $\frac{3\sqrt[3]{13824}}{2\sqrt[3]{-15625}} + \frac{2\sqrt[3]{-13824}}{\sqrt[3]{5832}} =$

A. $\frac{50}{27}$

B. $-\frac{50}{27}$

C. $\frac{27}{50}$

D. $-\frac{27}{50}$

Answer: C

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7. Cube root of a number when divided by the smallest prime number gives square of the smallest prime number, find the number.

A. 512

B. 8

C. 64

D. 125

Answer: A

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8. If a number has digit 2 at unit place, then its cube has digit ____ at its unit place.

A. 1

B. 2

C. 8

D. 4

Answer: C

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9. Which of the following in incorrect?

A. The cube of an even natural number is always even.

B. The root of a rational number $\frac{x}{y}$ is $\frac{\sqrt[3]{x}}{\sqrt[3]{y}}$.

C. The cube root of a negative number is always pisitive.

D. 2197 is a perfect cube.

Answer: C

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10. $\sqrt[3]{1-\frac{127}{343}}$ के बराबर है?

A. $\frac{5}{9}$

B. $1-\frac{1}{7}$

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

D. $1-\frac{2}{7}$

Answer: B

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11. If $\sqrt[3]{\frac{x}{729}}+\sqrt[3]{\frac{8x}{729}}+\sqrt[3]{\frac{27x}{5832}}=1$, then find the valueof x.

A. 1

B. 8

C. 3

D. 4

Answer: B

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12. $\left(\sqrt[3]{3}+\sqrt[3]{2}\right)\left(\sqrt[3]{9}+\sqrt[3]{4}-\sqrt[3]{6}\right)=$

A. 5

B. $\sqrt[9]{5}$

C. $\sqrt[6]{5}$

D. $\sqrt[3]{5}$

Answer: A

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13. $\frac{\sqrt[3]{1.728}-\sqrt[3]{0.216}}{\sqrt[3]{2.197}-\sqrt[3]{0.343}}=$

A. 1

B. 1

C. 2

D. -2

Answer: A

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14. If $3^9 + 3^{12} + 3^{15} + 3^n$ is a perfect cube, $n \in N$,then the value of n is

A. 18

B. 17

C. 14

D. 16

Answer: C

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15. if $x = \sqrt[3]{2\frac{93}{125}}$, then the value of x is

A. $2\frac{1}{5}$

B. $1\frac{2}{5}$

C. $3\frac{4}{5}$

D. $4\frac{1}{5}$

Answer: B

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16. if $\sqrt{\sqrt[3]{x \times 0.000009}} = 0.3$,then the value of $\sqrt{x}$ is

A. 27

B. 81

C. 9

D. 18

Answer: B

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17. $\frac{\sqrt[3]{1.728}}{\sqrt[3]{13.824}} \times \frac{\sqrt[3]{4.096}}{\sqrt[3]{216}} =$

A. $\frac{15}{8}$

B. $\frac{4}{15}$

C. $\frac{2}{15}$

D. $\frac{16}{4}$

Answer: C

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18. If $\sqrt[3]{\frac{x}{729}} + \sqrt[3]{\frac{27x}{3375}} = 1$, then find the value of x.

A. $\frac{79507}{3375}$

B. $\frac{91125}{2744}$

C. $\frac{2025}{196}$

D. $\frac{443}{125}$

Answer: B

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19. if $x = \sqrt[3]{13\frac{103}{125}}$, then the value of x is

A. $2\frac{1}{5}$

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

C. $3\frac{4}{5}$

D. $4\frac{1}{5}$

Answer: B

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20. Evaluate : $\sqrt[3]{\frac{4096}{64}} + 3\sqrt[3]{\frac{3375}{125}}$

A. 12

B. 13

C. -13

D. -12

Answer: B

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