CLASS VIII – MATHEMATICS – CHAPTER 07

CUBE AND CUBE ROOTS

Name: Date:

01. Find the cube of 75.

(a). 421875 (b). 5625 (c). 400175 (d). 417675

02. Find the prime factorisation of 175616.

(a). $2^3\ 2^3\ 3^3\ 7^3$ (b). $2^3\ 2^3\ 2^3\ 7^3$ (c). $2^3\ 3^3\ 5^3\ 7^3$ (d). $2^3\ 3^3\ 3^3\ 7^3$

03. What is the cube of double of 'a'?

(a). $2a$ (b). $4a^2$ (c). $8a^3$ (d). $16a^3$

04. Find the ones digit of cube root of 2197.

(a). 7 (b). 5 (c). 9 (d). 3

05. Find the cubes of 2x, 3x and 4x.

(a). $8x^3$, $16x^3$, $64x^3$ (b). $4x^3$, $9x^3$, $16x^3$ (c). $8x^2$, $27x^2$, $64x^2$ (d). $4x^2$, $9x^2$, $16x^2$

06. If $(2744)^{1/3} = 2p + 2$, then the value of p is

(a). 3 (b). 6 (c). 2 (d). 8

07. Find the cube root of -5832.

(a). -18 (b). 18 (c). 27 (d). -27

08. The cube root of the 216 x (–32) x 54 is _____.

(a). – 36 (b). – 72 (c). – 48 (d). – 54

09. Find the value of $\sqrt[3]{\sqrt{}}(0.000064)$.

(a). 0.2 (b). 0.02 (c). 0.3 (d). 0.03

10. Ones place digit in the cube of 5832 is _____.

(a). 2 (b). 8 (c). 4 (d). 7

11. Find the cube root of 686/(-3456).

(a). -7/13 (b). -14/26 (c). -7/12 (d). -7/24

12. Which is/are the following are not perfect cube number/s?

(a). 216 (b). 343 (c). 1000 (d). 128

Q01. Fill in the blanks:

(a). The numbers 1, 8, 27... are _____.

(b). A natural number is said to be a perfect cube, if it is the cube of some _____.

(c). If 'a' is a non-zero number, then $a \times a \times a = a^3$ is called _____ of 'a'.

(d). 36y is a perfect cube number, then y = _____

(e). If $n = m \times m \times m = m^3$, where m is an integer, then n is a perfect cube and m is called the ____ of n.

(f). The cube root of 13824 is _____.

(g). If $\sqrt[3]{\sqrt{}}(x/y) = 2/3$, then $x/y =$ _____.

(h). The square of a natural number subtracts from its cube comes 100.

The number is _____.

(i). If x is one's digit and y is ten's digit of a two-digit number, then the cube of the number will be ____.

(j). A natural number is said to be a perfect cube, if it is the cube of some _____.

(k). If (504 + p) is a perfect cube number, whose cube root is p, then p = _____.

(l). 23 is a cube root of _____.

(m). The smallest number by which the number 192 must be divided to obtain a perfect cube is _____.

(n). In the prime factorisation of a perfect cube, every _____ occurs three times or a multiple of three times.

Q02. State true or false:

(a). 8640 is a perfect cube.

(b). No perfect cube can end with exactly two zeros.

(c). If a divides b, then a^3 divides b^3

(d). Cubes of a Prime Number are prime.

(e). Cubes of all even natural numbers are even.

(f). Cubes of all negative integers are positive integers.

Q03. Express 6^3 as the sum of odd numbers.

Q04. 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?

Q05. Is 68600 a perfect cube? If not, find the smallest number by which 68600 must be multiplied to get a perfect cube.

Q06. Find the cube root of 0.001331.

Q07. Find the smallest number by which 54 must be multiplied so that the product is a perfect cube.

Q08. Three numbers are in the ratio of 2 : 3 : 4and the sum of their cubes is 33957. Find the numbers.

Q09. Find the side of the cubical box whose volume is 474.552 dm^3.

Q10. Evaluate: $[(24^2 + 7)^{1/2}]^3$

Q11. Divide 5673375 by the smallest number so that the product is perfect cube. Also find out the cube root of the resulting number.

Q12. The volume of a cube is 9261 cm^3. Find the side of the cube.

Q13. Find the smallest number which when multiplied with 137592 will make the product a perfect cube. Further find the cube root of the product.

Q14. Find the value of $125\sqrt[3]{(a^6)} - \sqrt[3]{125(a^6)}$, when a = 2.