8th Cube and Cube Root Paper -1

1. Find the one's digit of the cube of 3031
2. Without actually finding the cubes find the value of $21^3 - 20^3$
3. Is 32 a perfect cube?
4. Express 132 as the sum of two consecutive integers.
5. What will be the unit digit of the square of 3873?
6. Why 2332 is not perfect square?
7. Cube of any odd number is even. Yes/No Why?
8. Find the cube root of 27000.
9. Find the cube root of 17576 through estimation.
8. Anubhav makes a cuboid of plastic of sides 5 cm, 3 cm, 5 cm. How many such cuboids will he need to form a cube?
9. Is 5488 a perfect cube? If not, find the smallest natural number by which 5488 must be **multiplied** so that the product is a perfect cube
10. Is 5324 a perfect cube? If not, then by which smallest natural number should 5324 be **divided** so that the quotient is a perfect cube?

11. Evaluate: (i) $\sqrt[3]{\frac{216}{2197}}$ (ii) $\sqrt[3]{-\frac{125}{512}}$ (iii) $\sqrt[3]{-\frac{1728}{2744}}$ (iv) $\sqrt[3]{64 \times 729}$ (v) $\left(\sqrt{15^2 + 8^2}\right)^3$

12. Find the sum of following: $1^3 + 2^3 + 3^3 + 4^3 - - - - - 10^3$

{The sum of the cubes of first n natural numbers is equal to the square of their sum = $\left\{\frac{n(n+1)}{2}\right\}^2$ = $(1 + 2 + 3 - - - - + 10)^2 = (5 \times 11)^2$ = 166375}

13. Parikshit makes a cuboid of plasticine of sides 5 cm, 2 cm, 5 cm. How many such cuboids will he need to form a cube?
14. Three cubes of sides 3cm, 4 cm and 5 cm respectively are melted to form a new cube. What is the side of new cube?
15. Three numbers are in ratios $2 : 3 : 4$. The sum of their cubes is 33957. Find the numbers.
16. Is 5488 a perfect cube? If not, find the smallest natural number by which 5488 must be **multiplied** so that the product is a perfect cube
17. Prove that if a number became half then its cube became one eights the cube of given numbers.
18. Find cube root of following by successive subtraction method. (i) 125 (ii) 343
19. Find the sum of (i) first 37 natural number (ii) first 11 odd natural number
20. Find the cube root of following by finding their ones and tens digits: (i) 343 (ii) 2744 (iii)1331 (iv) 4913