5 CUBES AND CUBE ROOTS

Q1. **State True or False for the following statements:**

    a.   Cube root of a negative number is always negative.   _____

    b.   Cube of a negative number is always negative.   _____

    c.   If $a^6 = M$, then a is the cube root of M.   _____

    d.   Cube root of a^3b^3 is ab^3.   _____

Q2. **Without actual multiplication, find the digit in the ones place of the cubes of the following numbers:**

	Number	Digit in ones place
a.	21	_____
b.	45	_____
c.	73	_____
d.	68	_____

Q3. **Find the smallest number by which 12348 must be**

    a.   multiplied

    b.   divided

so as to make the resulting number a perfect cube.

Fill in the blanks with the correct number:

    a.   12348 × _____ = _____ is a perfect cube.

    b.   12348 ÷ _____ = _____ is a perfect cube.

Q4. **Find the cube root of the following numbers:**

a. 0.000125 : _____

b. 21952 : _____

c. $151\dfrac{19}{27}$: _____

Q5. **Compare the following numbers and put the correct sign <, > or =:**

a. $\sqrt[3]{-729}$ _____ -9

b. $\sqrt[3]{\dfrac{1331}{512}}$ _____ $2\dfrac{3}{8}$

c. $\sqrt[3]{421.875}$ _____ 7.05

Q6. **If the side of a cube is 6 cm 3 mm, find its volume in cm³.**

Answer: _____

Q7. **If a and b are prime numbers, find whether each of the following is a perfect cube or not:**

	Number	Perfect cube (Yes/No)
a.	a^6b^6	_____
b.	a^8b^8	_____
c.	a^8b^{27}	_____
d.	a^3b^3	_____

Q8. **Evaluate each of the following:**

a. $\sqrt[3]{5832} + \sqrt[3]{-1728}$ = _____

b. $\sqrt[3]{2744} \times \sqrt[3]{-64}$ = _____

c. $\sqrt[3]{-216} - \sqrt[3]{-512}$ = _____

Q9. **The volume of a cubical box is 3048.625 cm³. Find the length of each side of the box.**

Answer: _____

Q10. Sneha bought 27 cubes of side 1 cm each to create a bigger cube. Find the length of the largest solid cube that Sneha can build with the given cubes. Also, find the area of each flat surface of the bigger cube.

Length of the cube   = _____

Area of each flat surface of the cube = _____

Answers

1. a. True; b. True; c. False; d. False
2. a. 1; b. 5; c. 7; d. 2
3. a. 12348 × 6 = 74088; b. 12348 ÷ 36 = 343
4. a. 0.05; b. 28; c. $5\frac{1}{3}$
5. a. =; b. <; c. >
6. 250.047 cm^3
7. a. Yes; b. No; c. No; d. Yes
8. a. 6; b. –56; c. 2
9. 14.5 cm
10. 3 cm, 9 cm^2