

Hence, the cube root of 512 is 8.

## Q4

**Answer :**

(c) 20

$$\sqrt[3]{125 \times 64} = \sqrt[3]{125} \times \sqrt[3]{64} = \sqrt[3]{5 \times 5 \times 5} \times \sqrt[3]{2 \times 2 \times 2 \times 2 \times 2 \times 2}$$
$$\sqrt[3]{125 \times 64} = \sqrt[3]{(5)^3} \times \sqrt[3]{(2)^3 \times (2)^3} = \sqrt[3]{(5)^3} \times \sqrt[3]{(4)^3}$$
$$\sqrt[3]{125 \times 64} = 5 \times 4 = 20$$

Hence, the cube root of $\sqrt[3]{125 \times 64}$ is 20.

## Q5

**Answer :**

(b) $\frac{4}{7}$

$$\sqrt[3]{\frac{64}{343}} = \frac{\sqrt[3]{64}}{\sqrt[3]{343}} = \frac{\sqrt[3]{4\times4\times4}}{\sqrt[3]{7\times7\times7}} = \frac{\sqrt[3]{(4)^3}}{\sqrt[3]{(7)^3}}$$

$$\sqrt[3]{\frac{64}{343}} = \frac{4}{7}$$

$$\therefore \sqrt[3]{\frac{64}{343}} = \frac{4}{7}$$

## Q6

**Answer :**

(b) $\frac{-8}{9}$

$$\sqrt[3]{\frac{-512}{729}} = \frac{\sqrt[3]{-512}}{\sqrt[3]{729}} = \frac{\sqrt[3]{(-8)\times(-8)\times(-8)}}{\sqrt[3]{9\times9\times9}} = \frac{\sqrt[3]{(-8)^3}}{\sqrt[3]{(9)^3}}$$

$$\sqrt[3]{\frac{-512}{729}} = \frac{-8}{9}$$

$$\therefore \sqrt[3]{\frac{-512}{729}} = \frac{-8}{9}$$

## Q7

**Answer :**

(c) 9

| | |
|---|---|
| 2 | 648 |
| 2 | 324 |
| 2 | 162 |
| 3 | 81 |
| 3 | 27 |
| 3 | 9 |
| 3 | 3 |
| | 1 |

$648 = 2 \times 2 \times 2 \times 3 \times 3 \times 3 \times 3 = (2)^3 \times (3)^3 \times 3$

Therefore, to get a perfect cube, we need to multiply 648 by 9, i.e. $(3 \times 3)$.

## Q8

**Answer :**

(a) 3

| | |
|---|---|
| 2 | 1536 |
| 2 | 768 |
| 2 | 384 |
| 2 | 192 |
| 2 | 96 |
| 2 | 48 |
| 2 | 24 |
| 2 | 12 |
| 2 | 6 |
| 3 | 1 |
| | |

Q9

**Answer :**

(c) $2\frac{197}{1000}$

$$\left(1\frac{3}{10}\right)^3 = \left(\frac{13}{10}\right)^3 = \frac{(13)^3}{(10)^3} = \frac{(13\times13\times13)}{(10\times10\times10)}$$

$$\left(1\frac{3}{10}\right)^3 = \frac{2197}{1000} = 2\frac{197}{1000}$$

$$\therefore \left(1\frac{3}{10}\right)^3 = 2\frac{197}{1000}$$

Q10

**Answer :**

(c) 0.512

$$(0.8)^3 = (0.8)\times(0.8)\times(0.8) = 0.512$$

$$\therefore (0.8)^3 = 0.512$$

********** END **********