Cubes and Cubes Roots Ex 4.3 Q1

Answer :

(i)
We have:

$$
\begin{array}{r}
64 \\
\underline{1} \\
63 \\
\underline{7} \\
56 \\
\underline{19} \\
37 \\
\underline{37} \\
0
\end{array}
$$

∵ Subtraction is performed 4 times.

∴ $\sqrt[3]{64} = 4$

(ii)
We have:

512

$$\begin{array}{r} 1 \\ \hline 511 \end{array}$$

$$\begin{array}{r} 7 \\ \hline 504 \end{array}$$

$$\begin{array}{r} 19 \\ \hline 485 \end{array}$$

$$\begin{array}{r} 37 \\ \hline 448 \end{array}$$

$$\begin{array}{r} 61 \\ \hline 387 \end{array}$$

$$\begin{array}{r} 91 \\ \hline 296 \end{array}$$

$$\begin{array}{r} 127 \\ \hline 169 \end{array}$$

$$\begin{array}{r} 169 \\ \hline 0 \end{array}$$

∵ Subtraction is performed 8 times.

∴ $\sqrt[3]{512} = 8$

(iii)

We have:

$$1728$$

$$\begin{array}{r} 1 \\ \hline 1727 \end{array}$$

$$\frac{7}{1720}$$

$$\frac{19}{1701}$$

$$\frac{37}{1664}$$

$$\frac{61}{1603}$$

$$\frac{91}{1512}$$

$$\frac{127}{1385}$$

$$169$$

$$1216$$

$$\underline{217}$$

$$999$$

$$\underline{271}$$

$$\overline{728}$$

$$\underline{331}$$

$$397$$

$$\underline{397}$$

$$0$$

$\because$ Subtraction is performed 12 times.

$\therefore \sqrt[3]{1728} = 12$

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