



Cubes and Cubes Roots Ex 4.3 Q2

Answer :

(i)

We have:

$$\begin{array}{r} 130 \\ \underline{1} \\ 129 \\ \underline{7} \\ 122 \\ \underline{19} \\ 103 \\ \underline{37} \\ 66 \\ \underline{61} \\ 5 \end{array}$$

\therefore The next number to be subtracted is 91, which is greater than 5.

\therefore 130 is not a perfect cube.

(ii)

We have:

$$\begin{array}{r} 345 \\ - 1 \\ \hline 344 \\ - 7 \\ \hline 337 \\ - 19 \\ \hline 318 \\ - 37 \\ \hline 281 \\ - 61 \\ \hline 220 \\ - 91 \\ \hline 129 \\ - 127 \\ \hline 2 \end{array}$$

\therefore The next number to be subtracted is 161, which is greater than 2.

$\therefore 345$ is not a perfect cube.

(iii)

We have:

$$\begin{array}{r} 792 \\ \underline{1} \\ 791 \\ \underline{7} \\ 784 \\ \underline{19} \\ 765 \\ \underline{37} \\ 728 \\ \underline{61} \\ 667 \\ \underline{91} \\ 576 \\ \underline{127} \\ 449 \end{array}$$

$$\begin{array}{r}
 169 \\
 280 \\
 \hline
 217 \\
 63
 \end{array}$$

∴ The next number to be subtracted is 271, which is greater than 63.

∴ 792 is not a perfect cube.

(iv)

We have:

$$\begin{array}{r}
 1331 \\
 \hline
 1 \\
 1330 \\
 \hline
 7 \\
 1323 \\
 \hline
 19 \\
 1304 \\
 \hline
 37 \\
 1267
 \end{array}$$

$$\begin{array}{r}
 61 \\
 \hline
 1206 \\
 91 \\
 \hline
 1115 \\
 127 \\
 \hline
 988 \\
 169 \\
 \hline
 819 \\
 217 \\
 \hline
 602 \\
 271 \\
 \hline
 331 \\
 331 \\
 \hline
 0
 \end{array}$$

\therefore The subtraction is performed 11 times.

$$\therefore \sqrt[3]{1331} = 11$$

Thus, 1331 is a perfect cube.

***** END *****