

Ans 1	19	6859
	19	361
	19	19
		1

$$\sqrt[3]{6859} = 19 \times 19 \times 19$$

Yes, it is a perfect cube

Ans 2	2	74088
	2	37044
	2	18522
	3	9261
	3	3087
	3	1029
	7	343
	7	49
	7	7
		1

$$\sqrt[3]{74088} = \underline{2 \times 2 \times 2} \times \underline{3 \times 3 \times 3} \times \underline{7 \times 7 \times 7}$$

Yes, it is a perfect cube

Ans 3  $6 \times 6 \times 6 = 216$   
 $14 \times 14 \times 14 = 2744$

Ans 4  $\underline{2197}$

$197 = 3$

$2 > 1^3$

$\sqrt[3]{2197} = 13$

Ans 5  $\begin{array}{r|l} 3 & 675 \\ 3 & 225 \\ 3 & 75 \\ 5 & 25 \\ 5 & 5 \\ \hline & 1 \end{array}$

$\sqrt[3]{675} = \underline{3 \times 3 \times 3} \times 5 \times 5$

675 must be multiplied by 5 to get a perfect cube

Ans 6    Column 1    Column 2    Column 3    Column 4

$3^3$	$3 \times 3^2 \times 5$	$3 \times 3 \times 5^2$	$5^3$
$= 27$	$= 135$	$= 225$	$= 125$
<u>15</u>	<u>23</u>	<u>12</u>	
<u>42</u>	<u>158</u>	<u>237</u>	
42	8	7	5

Ans 7

17

4913

$$\sqrt[3]{4913} = 17 \times 17 \times 17$$

17

289

$$\sqrt[3]{4913} = 17^3$$

17

17

$$\sqrt[3]{4913} = \sqrt[3]{17^3}$$

1

$$\sqrt[3]{4913} = 17$$

Ans 8  $1+2+3=6$

$\frac{1}{6} \times 7776 = 1296$

$\frac{2}{6} \times 7776 = 2592$

$\frac{3}{6} \times 7776 = 3888$

Ans 9

3 | 3087

3 | 1029

7 | 343

7 | 49

7 | 7

1

$\sqrt[3]{3087} = 3 \times 3 \times \underline{7 \times 7 \times 7}$

3 is the smallest number by which 3087 must be multiplied so the product is a perfect cube

Ans 10

2	4608
2	2304
2	1152
2	576
2	288
2	144
2	72
2	36
2	18
3	9
3	3
	1

$$\sqrt[3]{4608} = \underline{2 \times 2 \times 2} \times \underline{2 \times 2 \times 2}$$

$$\underline{2 \times 2 \times 2} \times 3 \times 3$$

3 is the smallest number by which 4608 must be multiplied so that the product is a perfect cube

Ans 11

3	250047
3	83349
3	27783
3	9261
3	3087
3	1029
7	343
7	49
7	7
	1

$$\sqrt[3]{250047} = \underline{3 \times 3 \times 3} \times \underline{3 \times 3 \times 3}$$

$$\underline{7 \times 7 \times 7}$$

$$\sqrt[3]{250047} = 3^3 \times 3^3 \times 7^3$$

$$\sqrt[3]{250047} = \sqrt[3]{3^3 \times 3^3 \times 7^3}$$

$$\sqrt[3]{250047} = 3 \times 3 \times 7$$

$$\sqrt[3]{250047} = \del{81} 63$$

$$2 \mid -13824$$

$$2 \mid -6912$$

$$2 \mid -3456$$

$$2 \mid -1728$$

$$2 \mid -864$$

$$2 \mid -432$$

$$2 \mid -216$$

$$2 \mid -108$$

$$2 \mid -54$$

$$3 \mid -27$$

$$3 \mid -9$$

$$3 \mid -3$$

$$-1$$

$$\sqrt[3]{-13824} = \underline{2 \times 2 \times 2} \times \underline{2}$$

$$\underline{2 \times 2 \times 2} \times \underline{2 \times 2 \times 2}$$

$$\times \underline{3 \times 3 \times 3}$$

$$\sqrt[3]{-13824} = -2^3 \times -2^3 \times -2^3 \times -3^3$$

$$\sqrt[3]{-13824} = -2^3 \times -2^3 \times -2^3 \times -3$$

$$\sqrt[3]{-13824} = -2 \times -2 \times -2 \times -3$$

$$\sqrt[3]{-13824} = -24$$