Abhyas Academy

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Sec (1 Mark)

1)

19	6859
19	361
	19
	1

= 6859 is a prefect Cube.

2)

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

$74088 = 2^3 \times 3^3 \times 7^3 = (2 \times 3 \times 7)^3 = 42^3$

Is a prefect Cube

3) 4 cube - 64
6 Cube - 216
→ Cube of an even natural number is always even

Section (2 Marks)

1) Unit place of ~~[illegible]~~ Cube root of 2197

re 10,009,499,373 = 3 [13 Cube of 2197
Ier 46,87

2)

3	675
3	225
3	75
5	25
5	5
	1

$675 = (3 \times 3 \times 3) \times (5 \times 5)$

The smallest number That should divided 675 is $(5 \times 5) = 25$

$675 \div 25 = 27$

$\sqrt[3]{27} = 3$

$(35)^3$ $a=3$ $b=5$

a^3	$3a^2b$	$3b^2a$	b^3
27	135	225	125
15	23	12	
42	158	232	
42	8	7	5

$(35)^3 = 42875$

(3 Marks)

1)

17	4913
17	289
17	17
	1

The Cube root of 4913 = 17

2) Let the number be x, $2x$ and $3x$
A/q

$$x^3 + (2x)^3 + (3x)^3 = 7776$$
$$x^3 + 8x^3 + 27x^3 = 7776$$
$$36x^3 = 7776$$
$$x^3 = 216$$
$$x = 6$$

So nuber are
$x = 6$
$2x = 2(6) = 12$
$3x = 3(6) = 18$

[6, 12, 18]

3)

3	3087
3	1029
7	343
7	49
7	7
	1

$= 3087 \times 3 = 4291$

3 is smallest number by which 3087 multiply by a prefect cube.

4)

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

4608 = (2×2×2×2×2×2×2×2×2) × (3×3)

= 3 is smallest number by which 4608 must be multiply.

5) Prime factorization method

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

3×3×3 × 3×3×3 ×

7×7×7

= 3×3×7

250047 = 3×3×7

= 63 3×21