CUBE OF A NUMBER

i) When the first digit is 1.

$(12)^3$.

$1^3 \quad 2^1 \quad 2^2 \quad 2^3$

$= 1 \quad 2 \quad 4 \quad 8$

$\times \quad 4 \quad 8 \quad \times$

$1 \quad 6 \quad 12 \quad 28$

Sunday

$\Rightarrow 1728$

Steps: 1) Write 1^3 on the extreme left and 2^3 on the extreme right.

2) Before 2^3, write 2^2 and before 2^2, write 2^1

3) Find the value of all the 4 numbers

3 APRIL

Monday

2017

4) In the 2 middle values, just below them, write the double of the values.

5) Now, using the carry forward technique, find the answer.

ii) When the last digit is 1.

$(21)^3$.

4

Tuesday

$2^3 \quad 2^2 \quad 2^1 \quad 1^3$.

$= 8 \quad 4 \quad 2 \quad 1.$

$\times \quad 8 \quad 4 \quad \times$

$9 \quad 2 \quad 6 \quad 1$

$= 9261.$

Steps: 1) Write 2^3 on the extreme left and 1^3 on the extreme right

2) After 2^3, write 2^2 and after 2^2, write 2^1.

3) Find the values of all the four numbers.

4) Below the two middle values, write the double of the values.

5) Now, what is the answer.

6) Here, no, carry forward was required.

iii) Same number.

$(22)^3$.

6

Thursday

$2^3 \quad 2^3 \quad 2^3 \quad 2^3$

$= 8 \quad 8 \quad 8 \quad 8.$

$\times \quad 16 \quad 16 \quad \times$

$10,648$

Steps: 1) Write 2^3 four times side by side

2) Find the values of all the four numbers.

3) Below the two middle values, write

4) the double of the values.
4) Now, use the carry forward technique to get the answer.

iv) Different numbers.

$(24)^3$.

2^3 $2^2 \times 4$ 2×4^2 4^3

8 = 8 16 32 64
× 32 64 64 ×
8 48 96 64

$\Rightarrow$ 13,824

Steps: 1) Write 2^3 on the extreme left and 4^3 on the extreme right.
2) After 2^3, write $2^2 \times 4$ and after that write 2×4^2.
3) Find the values of all

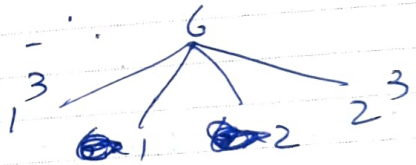
Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

the numbers
4) Below the two middle values, write the double of the values.
5) Now, use the carry forward technique to find the answer.

v) Alternative Method

a) $(12)^3$

Now, $1 \times 2 \times 3 = 6$.



1 | 6 | 12 | 8.

1728

Steps: 1) $1 \times 2 \times 3 = 6$.
2) Four branches would come out of 6.

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

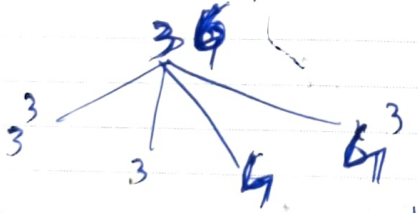
3) On the extreme left, it would be 1^3 and on the extreme right it would be 2^3.

4) The second branch from left would evaluate to 6×1 and the second branch from right would evaluate to 6×2.

5) Using the carry-forward method, you will get the answer.

b) 34^3.

Now, $3 \times 4 \times 3 = 36$.



$\Rightarrow 27 | 36 \times 3 | 36 \times 4 | 64$.

$\Rightarrow 27 | 108 | 144 | 64$.

So, answer is:
$3^4 3^0 4$

Steps: 1) $3 \times 4 \times 3 = 36$
2) Four branches would come out of 36.

3) On the extreme left it would be 3^3 and on the extreme right, it would be 4^3. (You can see the main question)

4) The second branch from the left would evaluate to 36×3 and the second branch from the right would evaluate to 36×4.

5) Using the carry forward method, you will get the answer.

c) $(103)^3$.

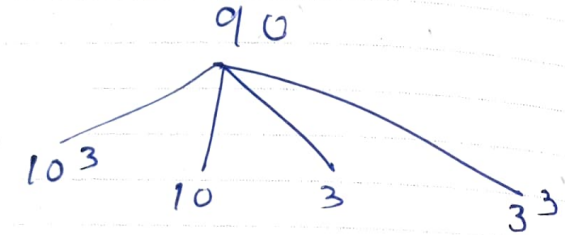
Divide it into 2 nos.

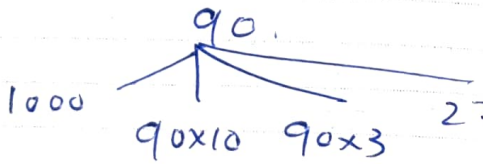
$(10|3)^3$.

So, we have

$10 \times 3 \times 3 = 90$

Now,





So,

$1000|900|270|27$

$\Rightarrow$ 1092727

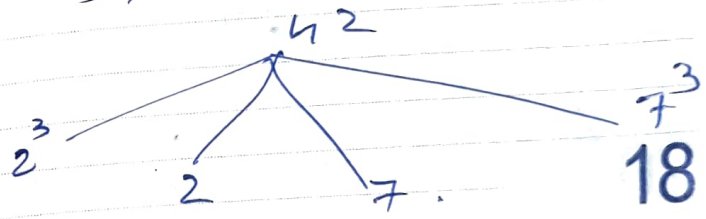
vi) Another method.

a) $(2007)^3$.

$= (2000 + 7)^3$.

Now, $2 \times 7 \times 3 = 42$.

So, we have.



$\Rightarrow$ $8|42 \times 2|42 \times 7|343$.

$\Rightarrow$ $8|84|294|343$.

REMEMBER:

In this type of problems, no carry forward is required. But make sure each no, except the first no is expressed in 3 digits.