



Most Trusted Learning Platform

**Number & Letter
Series**

By - Sanjeev Tiwari Sir

$$\begin{array}{c|c|c|c}
 x+1 & x^2+1 & x^2-1 & x^3+x \\
 x+2 & x^2+3 & x^2-3 & x^3+2x \\
 x+3 & & &
 \end{array}$$

5, 16, 51, 158 ?

$$5 \times 3 = 15 + \textcircled{1} = 16$$

$$16 \times 3 = 48 + \textcircled{3} = 51$$

$$51 \times 3 = 153 + \textcircled{5} = 158$$

$$158 \times 3 = 474 + \textcircled{7} = \underline{\underline{481}}$$

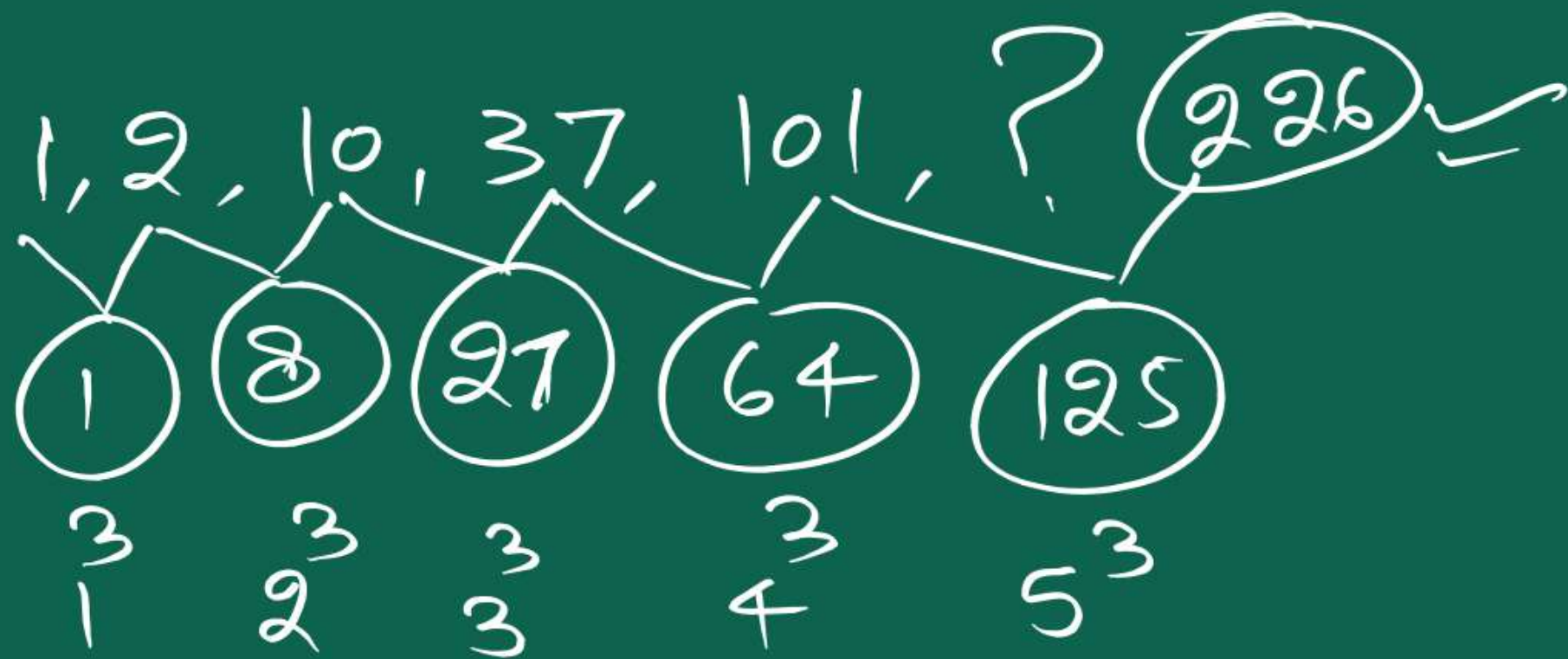
10, 18, 51, 200, ?

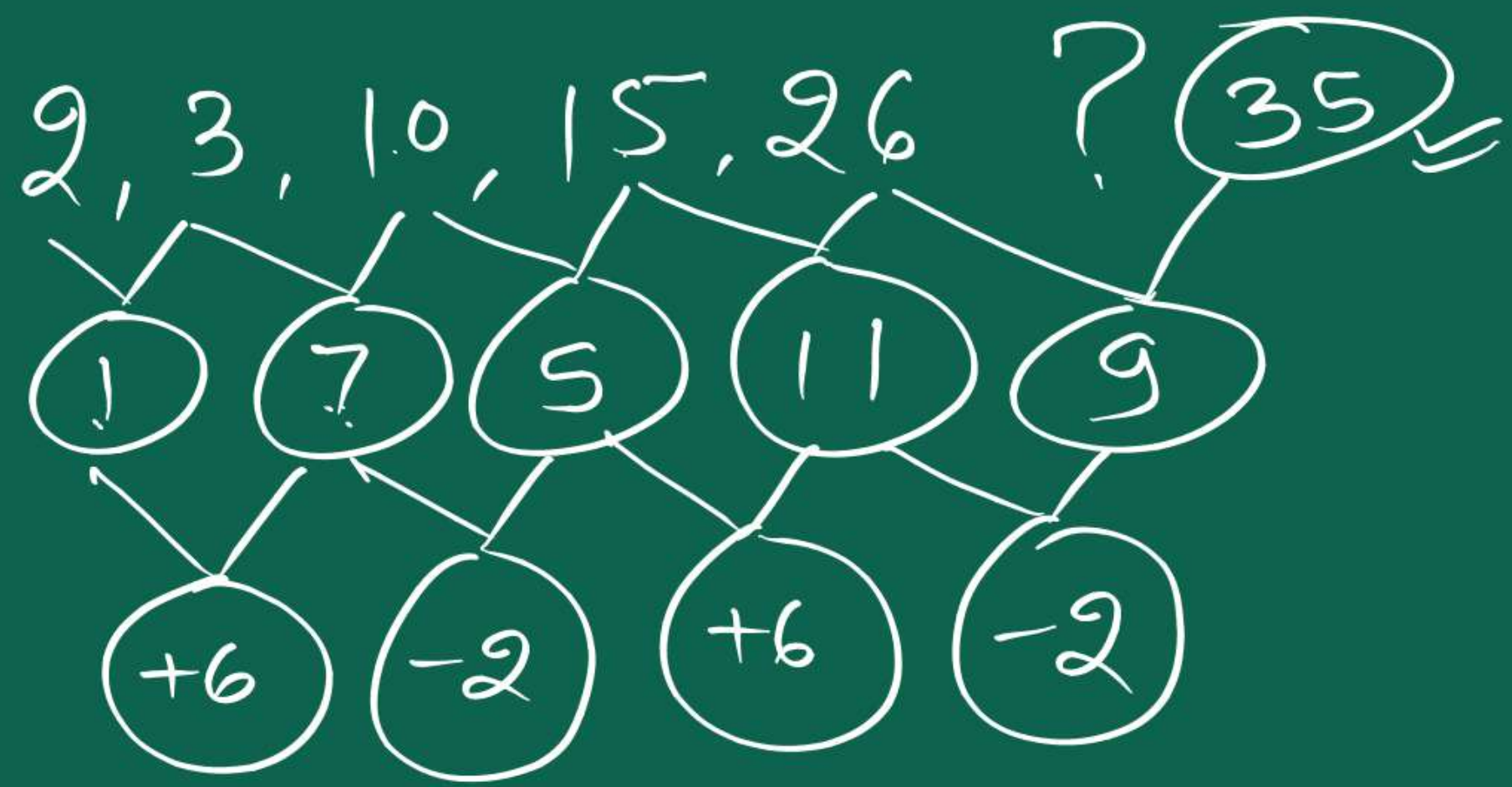
$$10 \times 2 = 20 - \textcircled{2} = 18$$

$$18 \times 3 = 54 - \textcircled{3} = 51$$

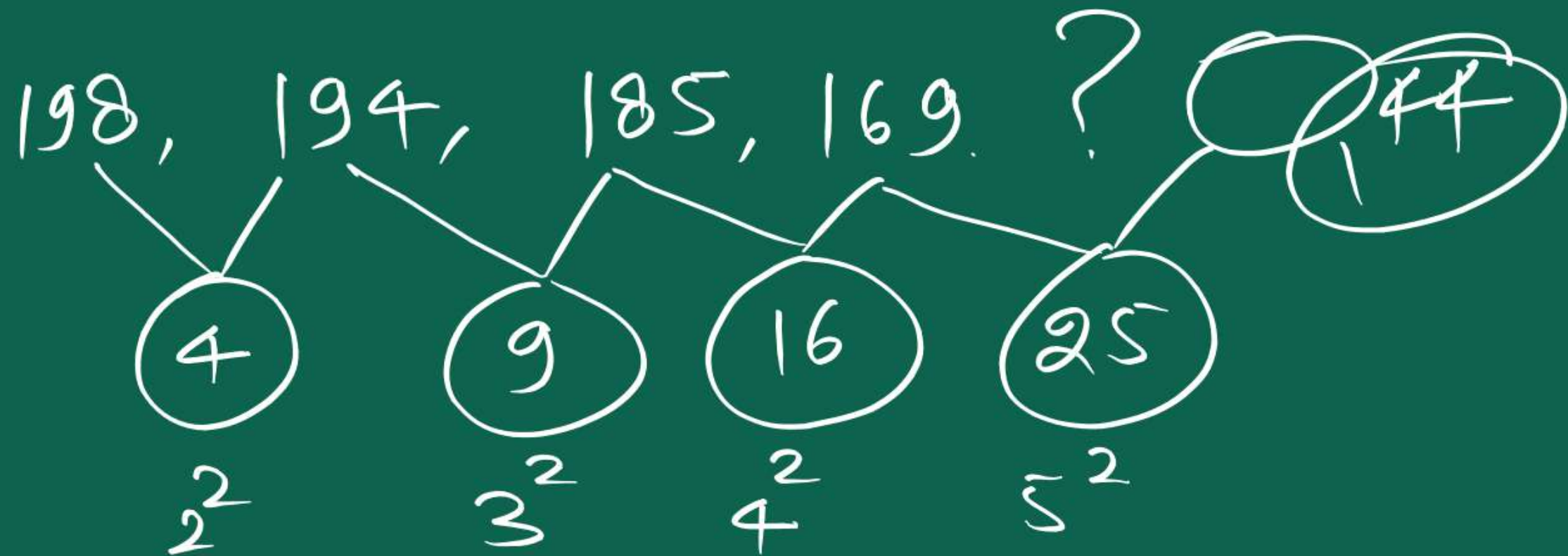
$$51 \times 4 = 204 - \textcircled{4} = 200$$

$$200 \times 5 = 1000 - \textcircled{5} = 995$$





$$\begin{array}{ccccc}
 4, & 16, & 36, & \textcircled{64} & 100 \\
 \uparrow 2^2 & \uparrow 4^2 & \uparrow 6^2 & \uparrow 8^2 & \uparrow 10^2 \\
 2 & 4 & 6 & 8 & 10
 \end{array}$$



10, 5, 5, 7.5, 15, ?

$$10 \times 0.5 = 5$$

$$5 \times 1 = 5$$

$$5 \times 1.5 = 7.5$$

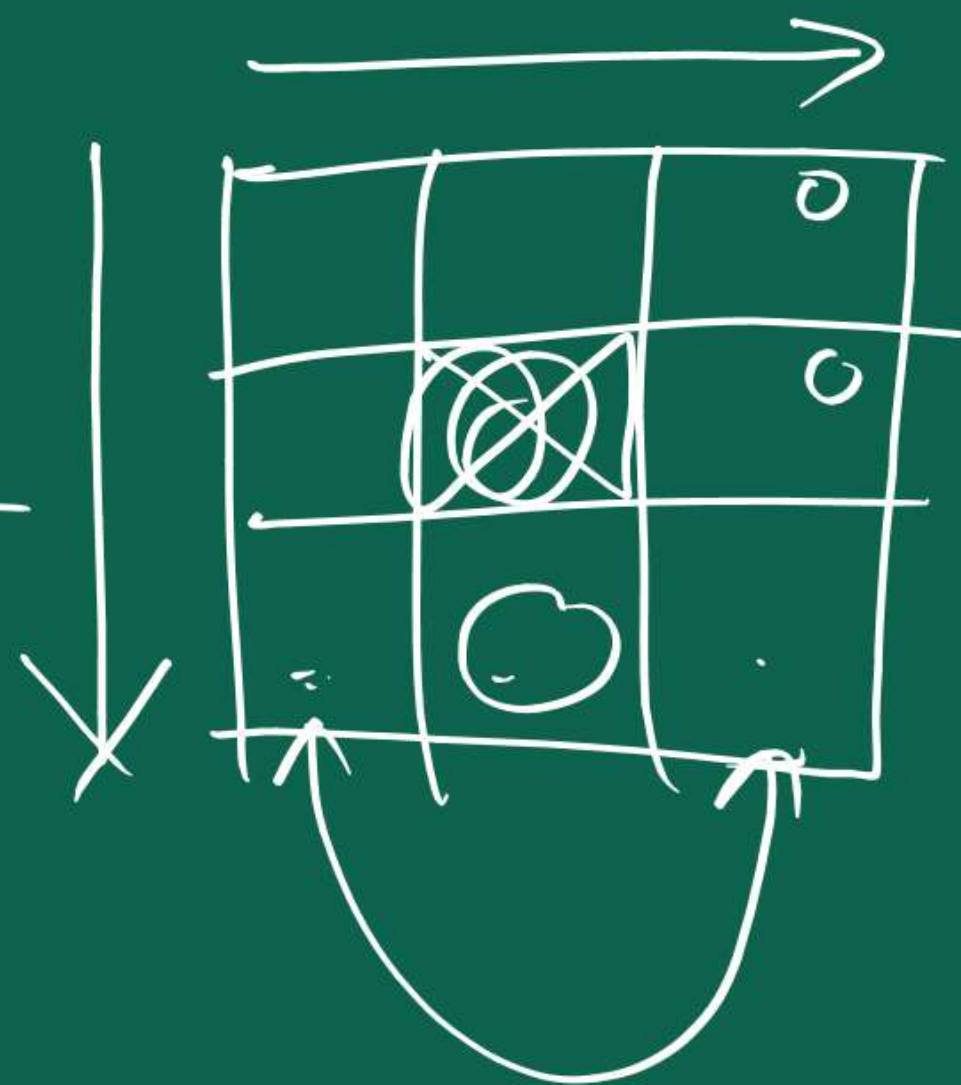
$$7.5 \times 2 = 15$$

$$15 \times 2.5 = 37.5$$

$$\begin{array}{r}
 3^2 = 9 \\
 1^2 = 1 \\
 5^2 = 25 \\
 \hline
 35
 \end{array}$$

3	2	5	$5^2 = 25$
1	4	6	$6^2 = 36$
5	2	1	$1^2 = 1$
35	24	?	<u><u>62</u></u>

$$\begin{array}{r}
 2^2 = 4 \\
 4^2 = 16 \\
 2^2 = 4 \\
 \hline
 24
 \end{array}$$



→

5	6	12	42
7	5	7	42
3	4	10	22
5	4	12	?

$$5 \times 6 = 30 + 12 = 42$$

$$7 \times 5 = 35 + 7 = 42$$

$$3 \times 4 = 12 + 10 = 22$$

$$5 \times 4 = 20 + 12 = 32$$



4	5	6
2	3	7
1	8	3
21	98	?

$$4^2 = 16$$

$$2^2 = 4$$

$$1^2 = 1$$

$$\underline{21}$$

$$5^2 = 25$$

$$3^2 = 9$$

$$8^2 = 64$$

$$\underline{98}$$

$$6^2 = 36$$

$$7^2 = 49$$

$$3^2 = 9$$

$$\underline{\underline{94}}$$

4	5	5?
64	125	130
16	25	26

A hand-drawn diagram on a green background showing a 3x3 grid. The grid contains the following numbers:

4	5	5?
64	125	130
16	25	26

The middle row (64, 125, 130) is circled in yellow. A white arrow points from the left to the first cell (4), and another white arrow points from the first cell to the second cell (5). A large white arrow on the right side of the grid points from the middle row down to the bottom row.

↓

1	2	3
11	7	5
120	45	?

$$11^2 - 1^2 = 121 - 1 = 120$$

$$7^2 - 2^2 = 49 - 4 = 45$$

$$5^2 - 3^2 = 25 - 9 = \underline{\underline{16}}$$

1. अनुक्रम 2, 12, 36, 80, 150, X में X का मान क्या है?

(a) 248

☒ (b) 252

(c) 258

(d) 262

UPSC (Pre.) 2022

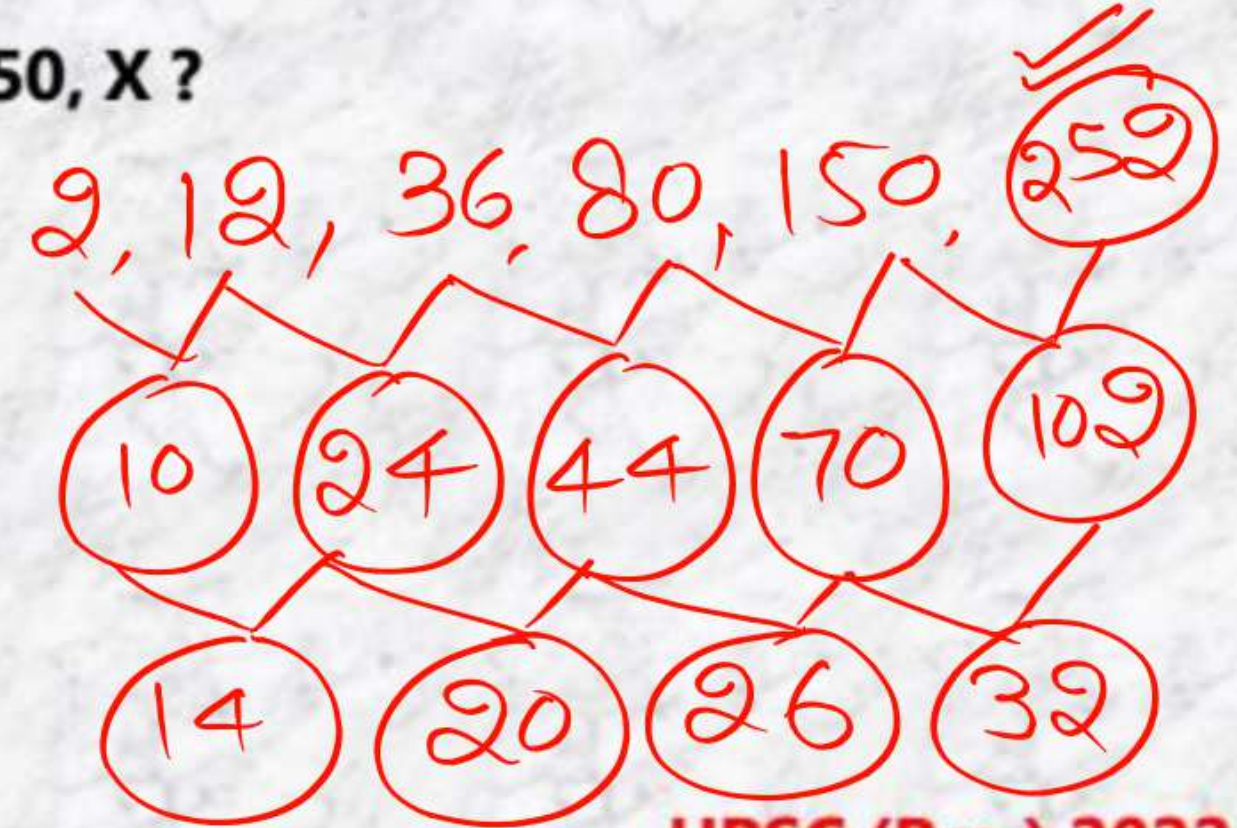
1. What is the value of X in the sequence 2, 12, 36, 80, 150, X ?

(a) 248

☒ (b) 252

(c) 258

(d) 262



UPSC (Pre.) 2022

2. अनुक्रम 20, 10, 10, 15, 30, 75, X में X का मान क्या है?

(a) 105

(b) 120

(c) 150

(d) 225

UPSC (Pre.) 2022

2. What is the value of X in the sequence 20, 10, 10, 15, 30, 75, X?

(a) 105

(b) 120

(c) 150

(d) 225

$$20 \times 0.5 = 10$$

$$10 \times 1 = 10$$

$$10 \times 1.5 = 15$$

$$15 \times 2 = 30$$

$$30 \times 2.5 = 75$$

$$75 \times 3 = 225$$

UPSC (Pre.) 2022

5. अनुक्रम 2, 7, 22, 67, 202, X, 1822 में 'X' का मान क्या है?

(a) 603

(b) 605

☒ (c) 607

(d) 608

$$607 \times 3 = 1821 + 1 \\ = \underline{\underline{1822}}$$

UPSC (Pre.) 2021

5. What is the value of 'X' in the sequence 2, 7, 22, 67, 202, X, 1822 ?

(a) 603

(b) 605

(c) 607

(d) 608

$$\begin{aligned} 2 \times 3 &= 6 + 1 = 7 \\ 7 \times 3 &= 21 + 1 = 22 \\ 22 \times 3 &= 66 + 1 = 67 \\ 67 \times 3 &= 201 + 1 = 202 \\ 202 \times 3 &= 606 + 1 = 607 \end{aligned}$$

UPSC (Pre.) 2021

THANK YOU!