



CSAT

REASONING



BY – SHANTANU SIR

Figure Counting (चित्र गणना)

Types:-

1. Triangle (त्रिभुज) $\begin{cases} 1 \\ 2 \\ 3 \\ 4 \end{cases}$
2. Square (वर्ग) $\begin{cases} 1 \\ 2 \end{cases}$
3. Rectangle - आयत
4. Straight Line (सीधी रेखाएं)

Mix Question

Triangle (त्रिभुज)

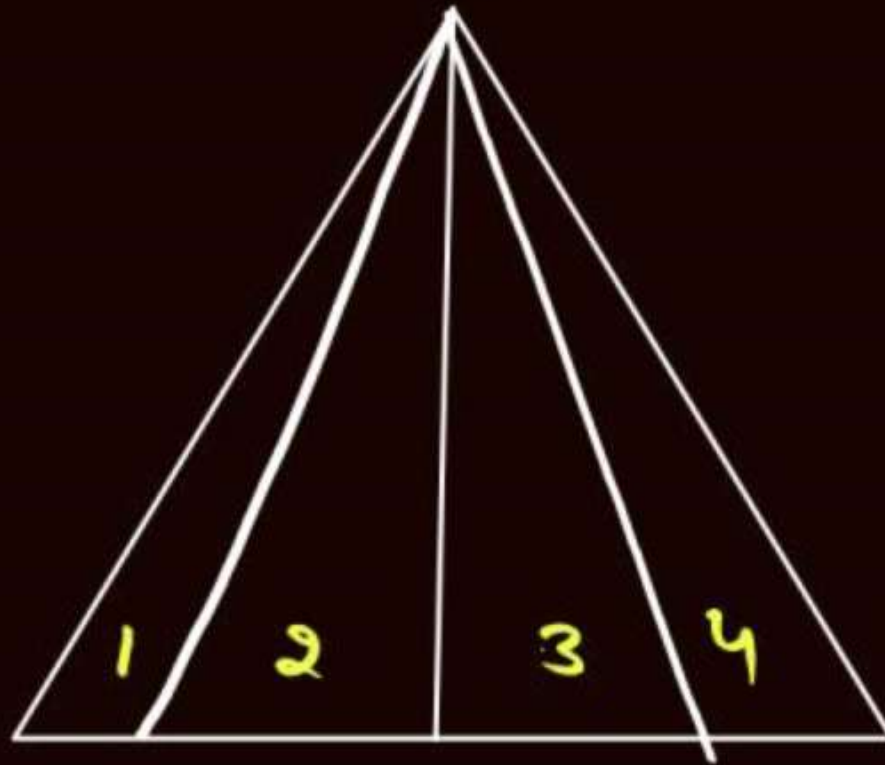
Case-1.

Formula:-

$$= \frac{n \cdot (n+1)}{2}$$

$$\frac{19 \times 20}{2}$$

$$= \boxed{190}$$



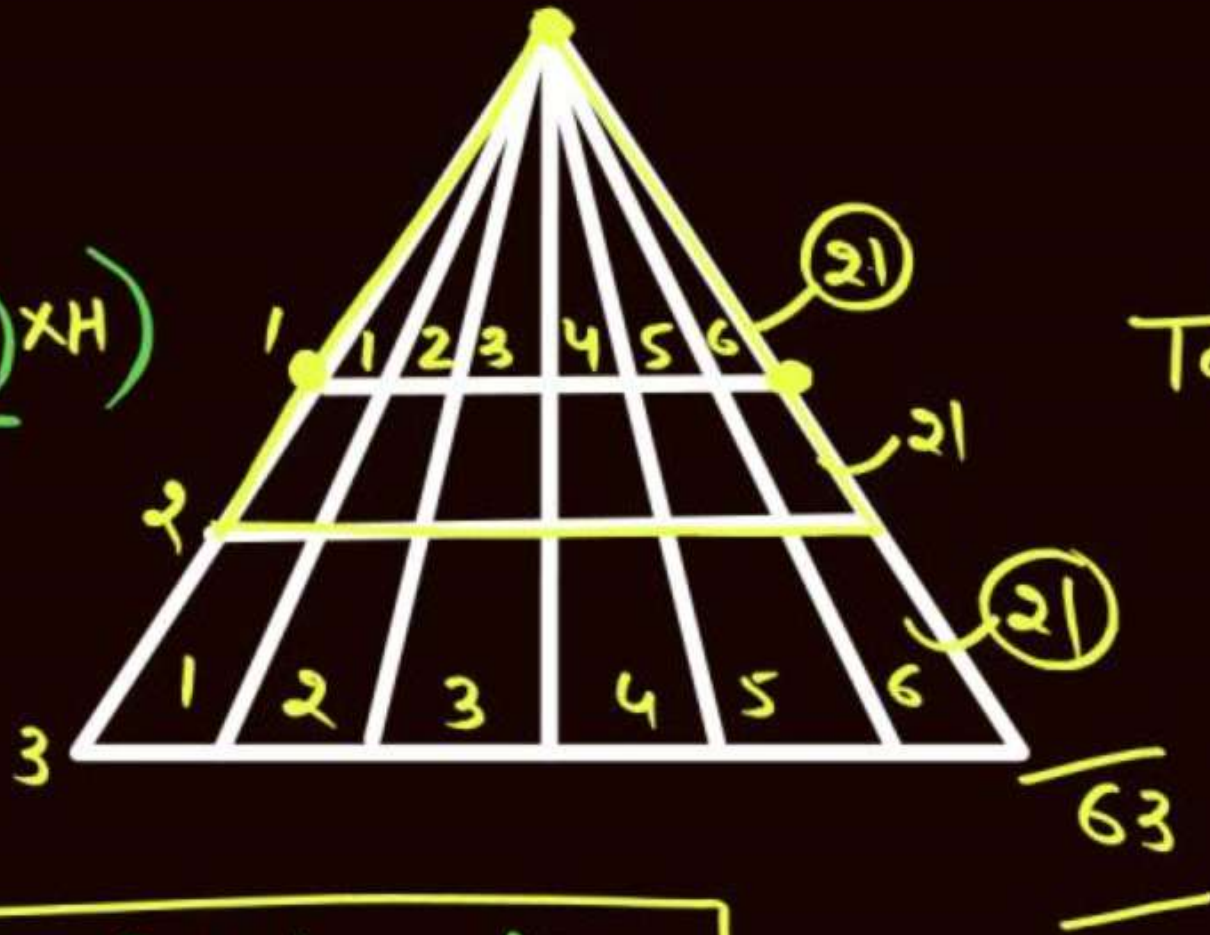
Total
Triangle = ?

n = number of Small Triangle.

$$1 + 2 + 3 + 4 = \boxed{10} \rightarrow \text{Ans.}$$

Case-2:

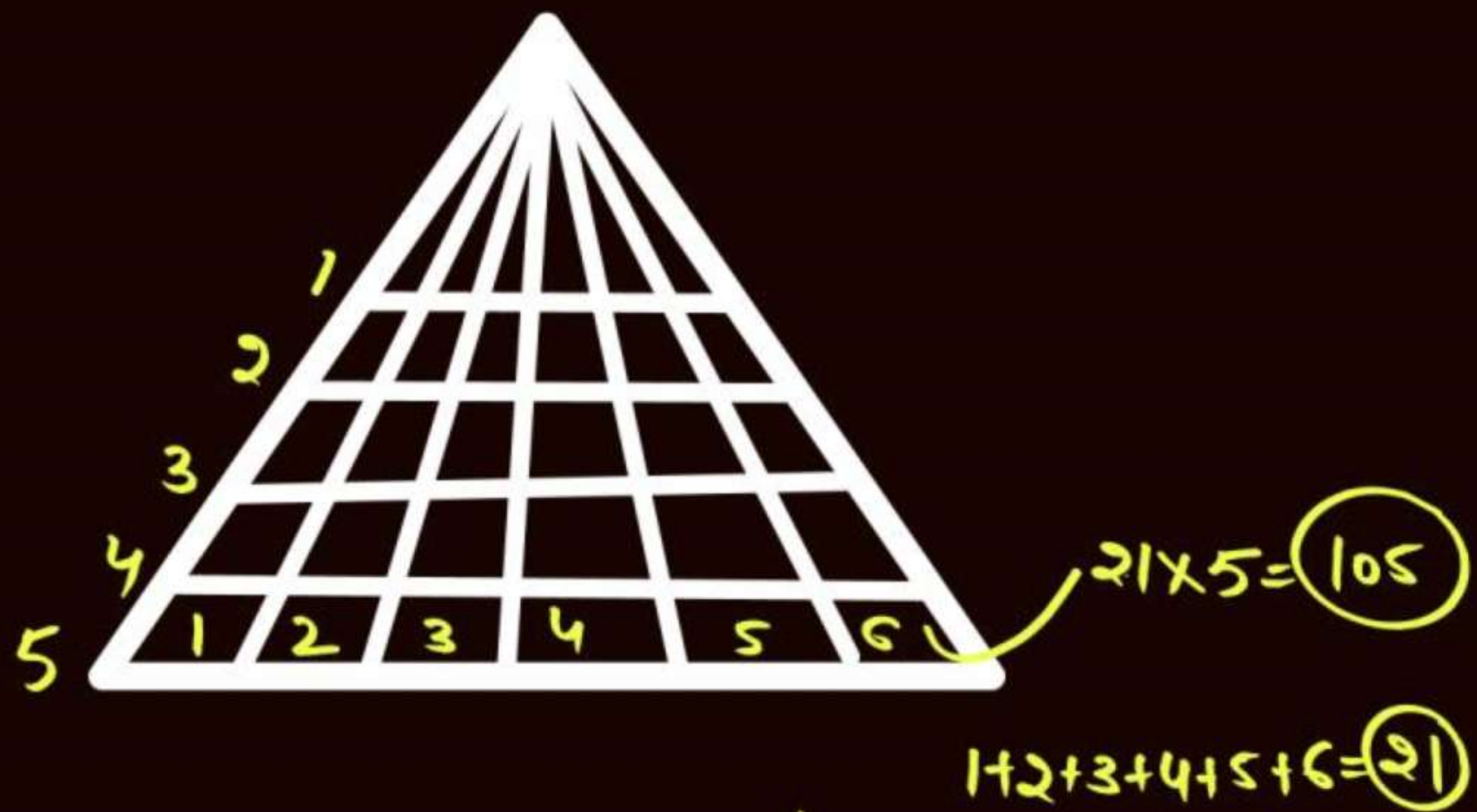
Formula: $\frac{(n \cdot (n+1) \times H)}{2}$



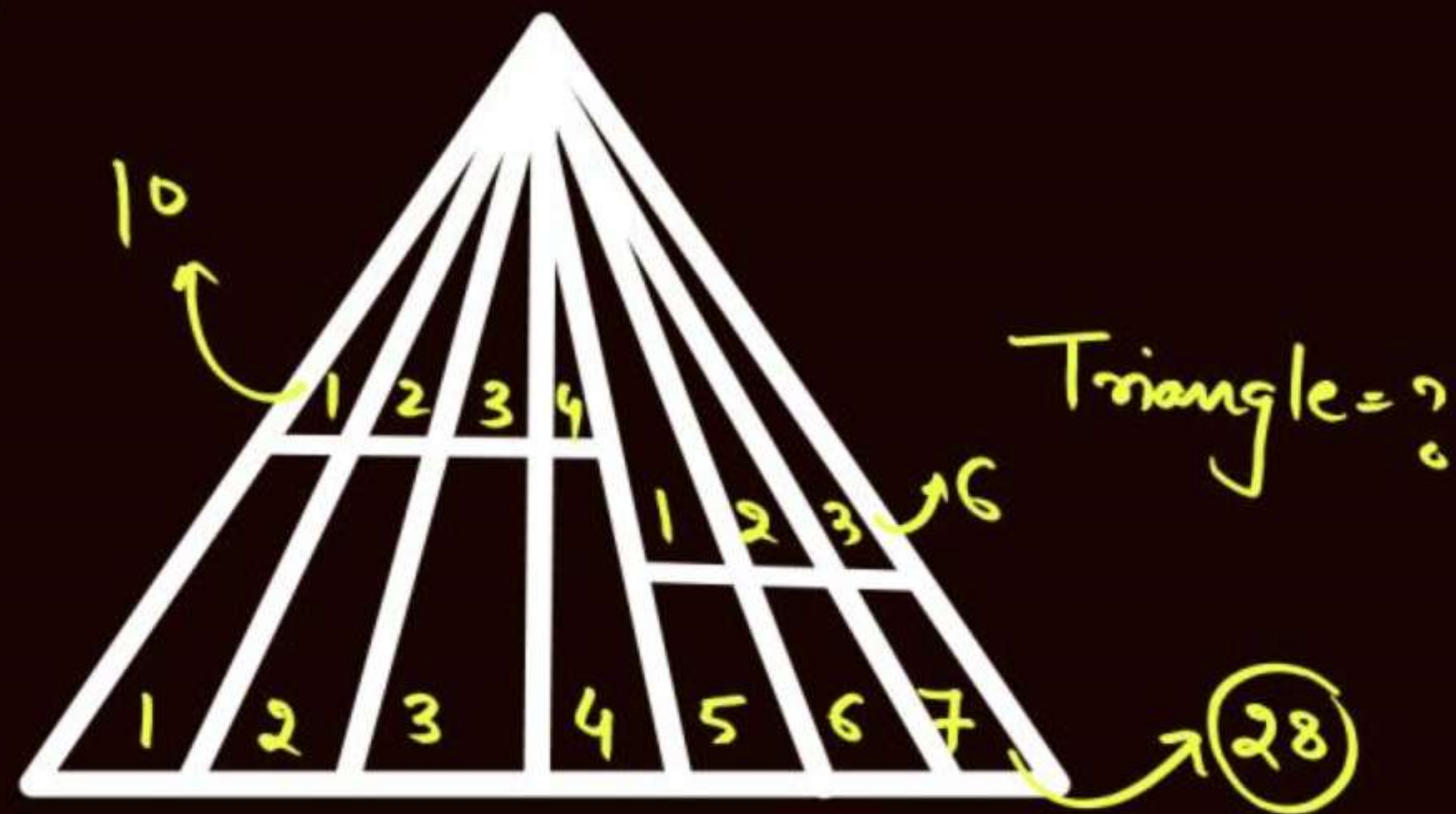
Total Triangles = 63

$H = \text{no. of Horizontal line.}$

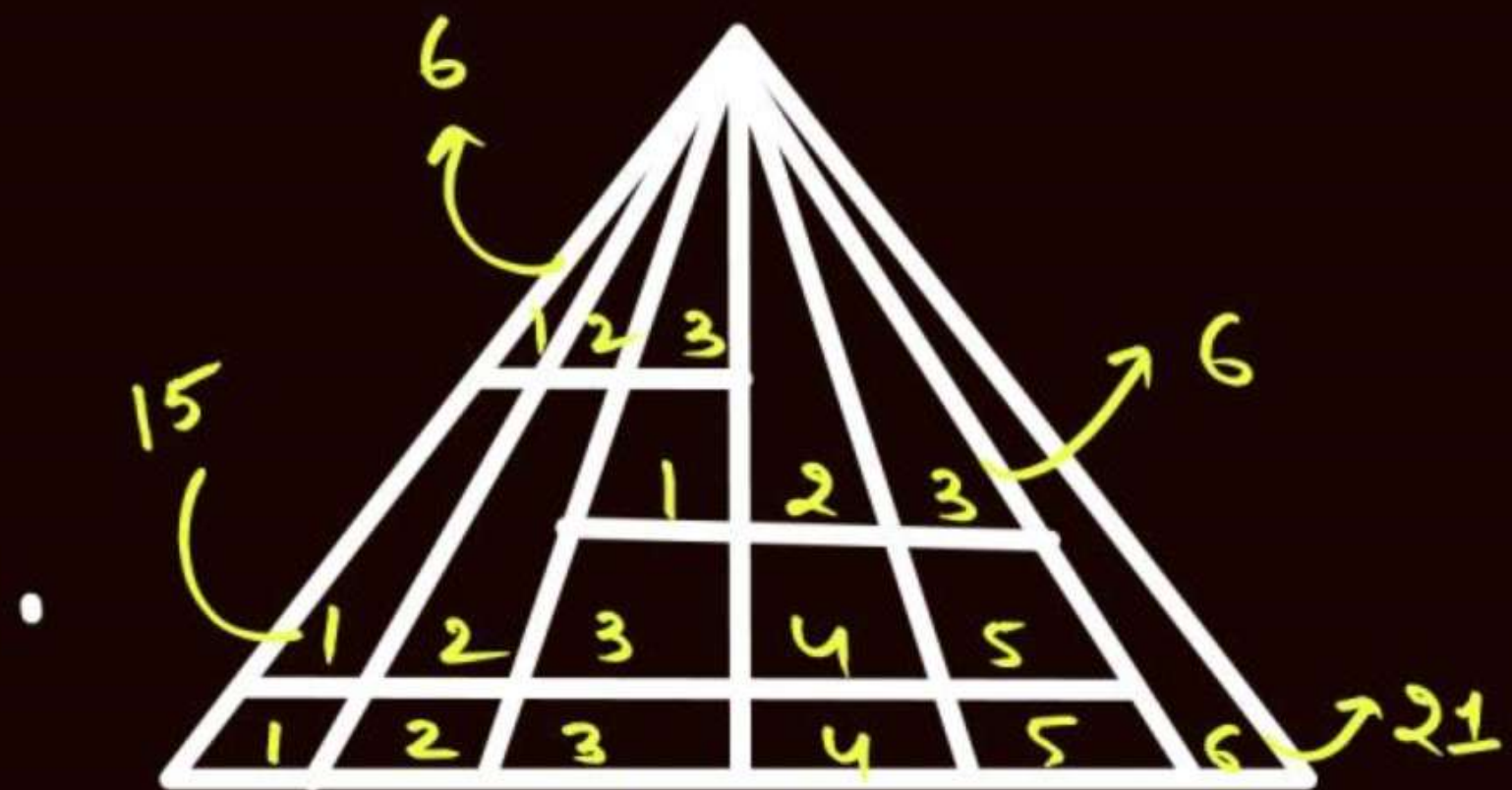
$$21 \times 3 = (63)$$



Case-3.

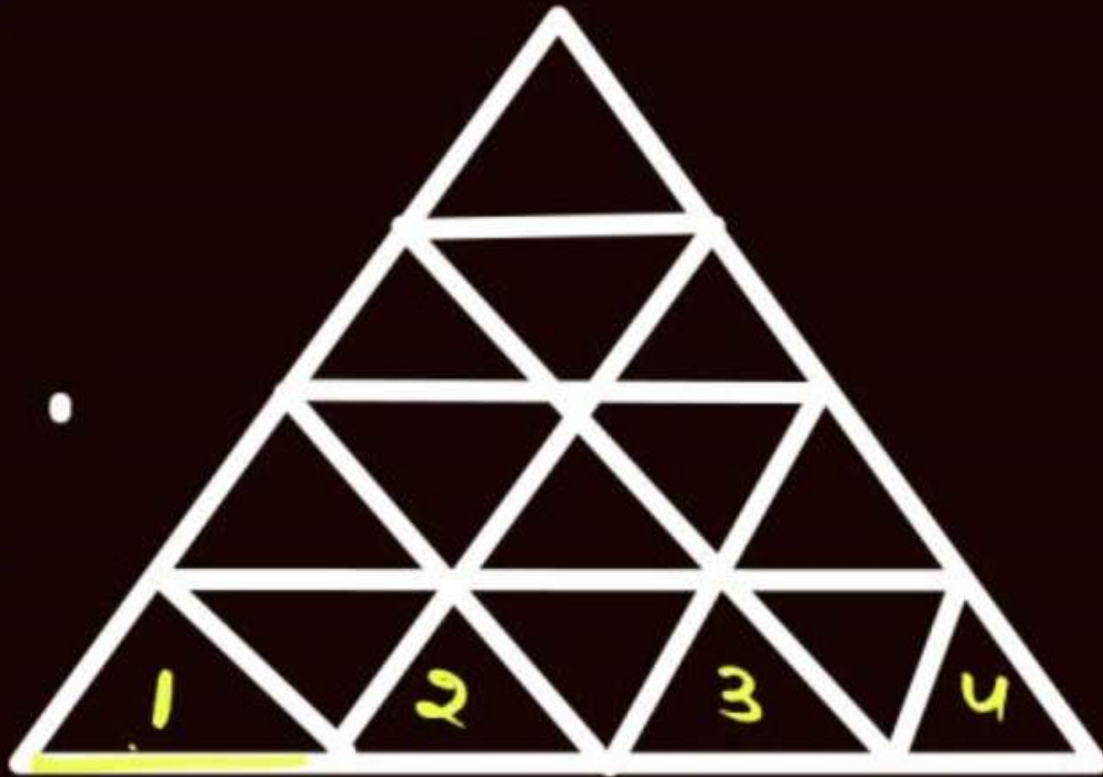


$$28 + 10 + 6 = \underline{44} \text{ Ans.}$$



$$21 + 15 + 6 + 6 = \textcircled{48}$$

Case-4:



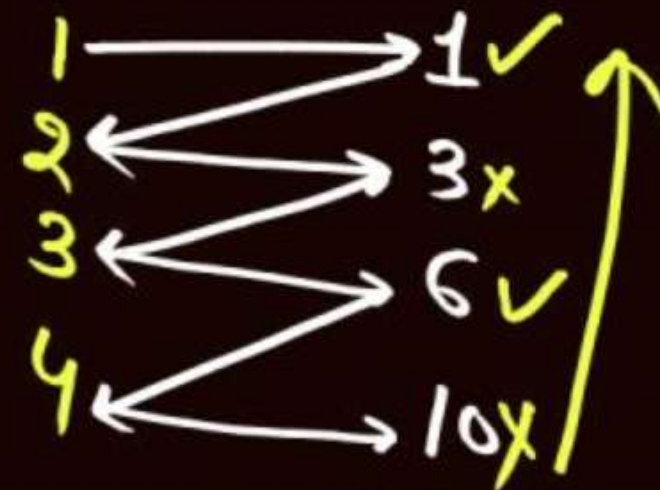
Triangle = ?



if Base = 6

$$\underline{56 + 22}$$

→ 78



$$\underline{20 + 7 = 27}$$

Mix Questions



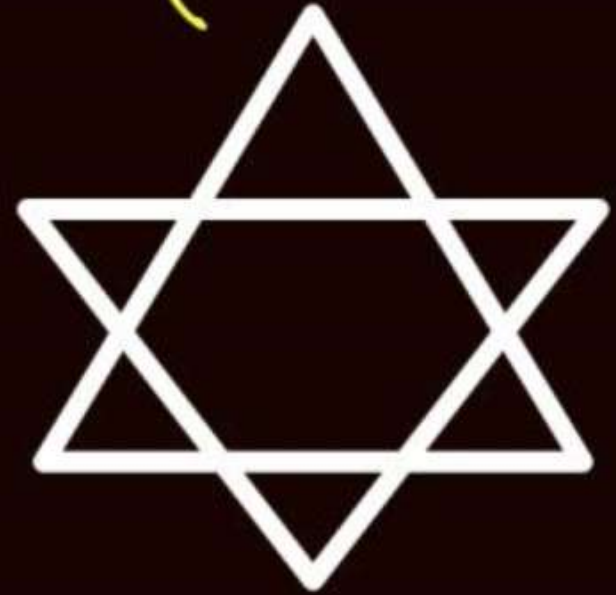
$$= 4 \times 2 = \textcircled{08}$$

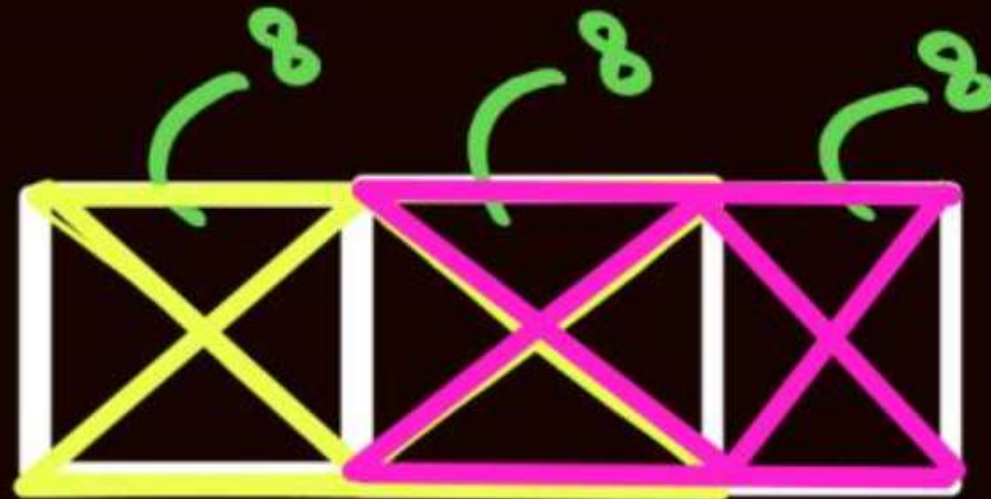


$$= 6 \times 2 = \textcircled{12}$$



$$= 8 \times 2 = \textcircled{16}$$

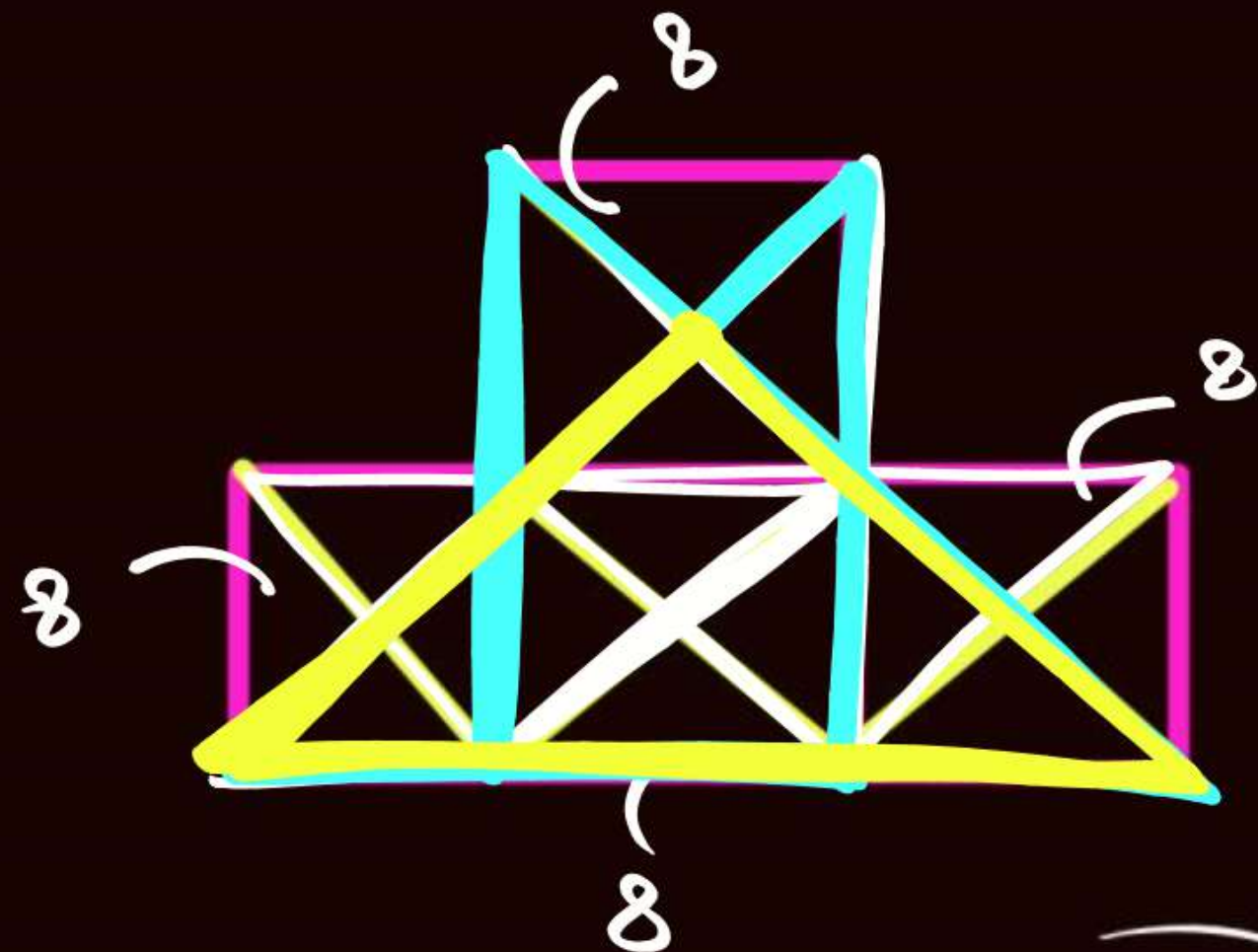




$$= 24 + 4$$

$$= \textcircled{28}$$

• Triangles = ?

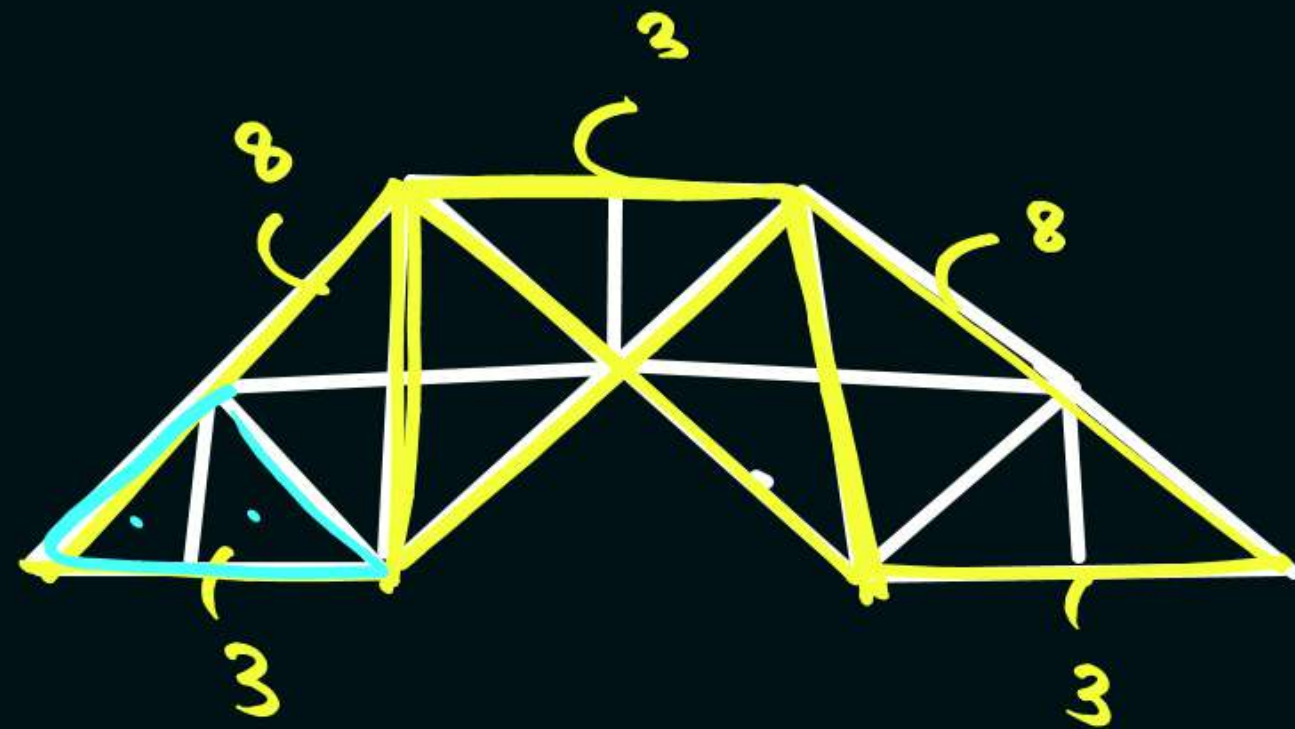


Triangles = ?

$$32 + 6 = 38 + 3$$

✓ (41)

forward



Triangles = ?

$$16 + 9 = \textcircled{25} + 2 + 2$$

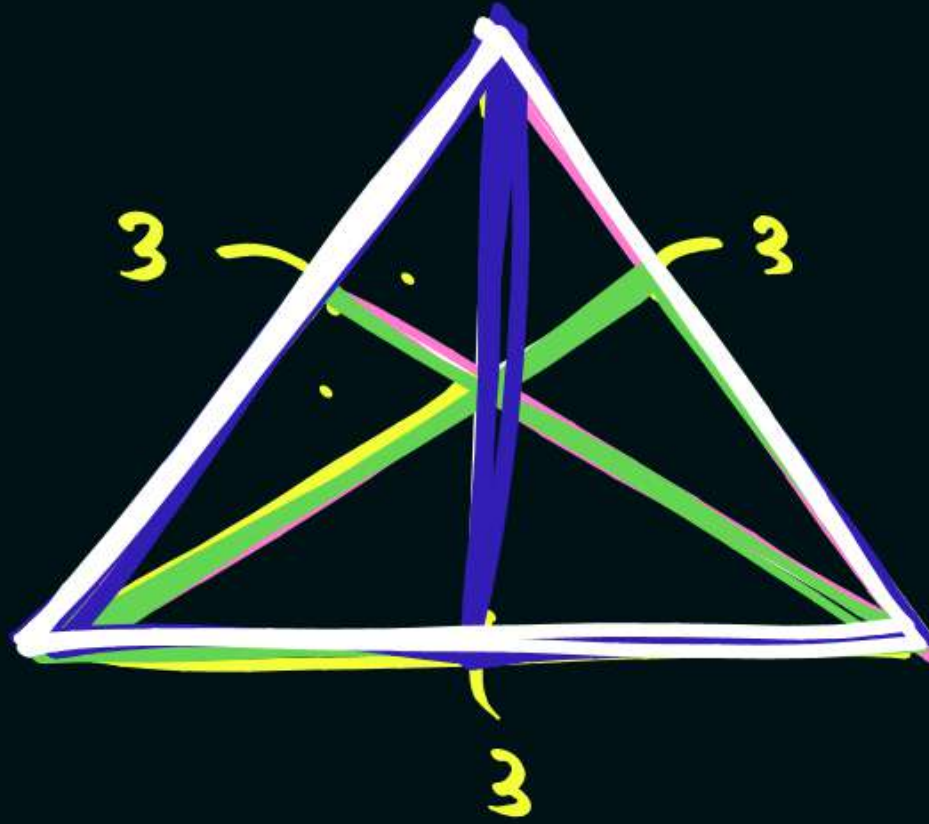
$$= \textcircled{29}$$

① 25

② 29 ✓

③ 31

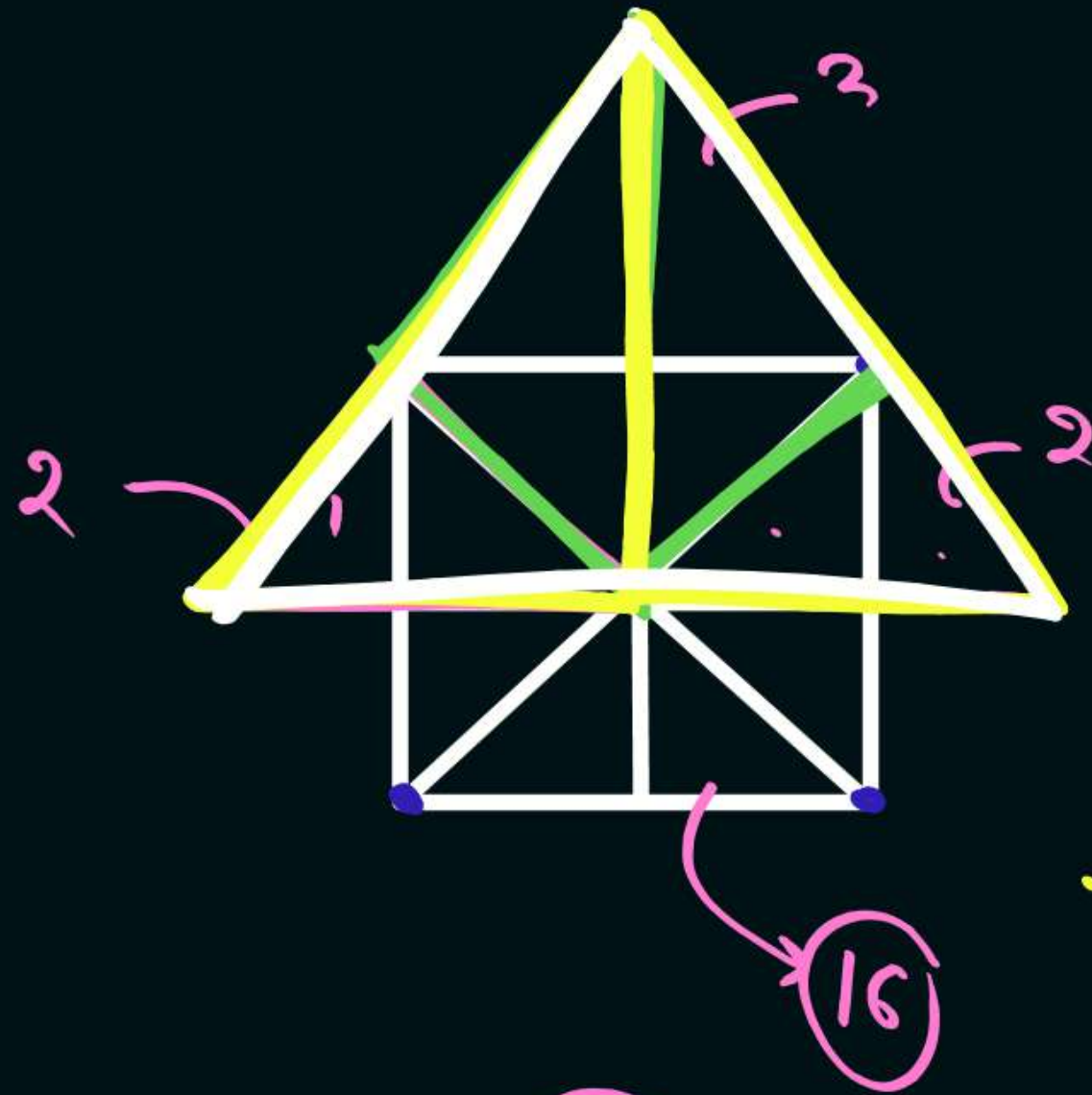
④ 28



$$9 + 2 = 11$$

Triangles = ?

- ① 15
- ✓ ~~② 16~~
- ③ 17
- ④ 18



① 25

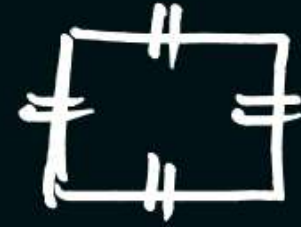
② 28 ✓

③ 30

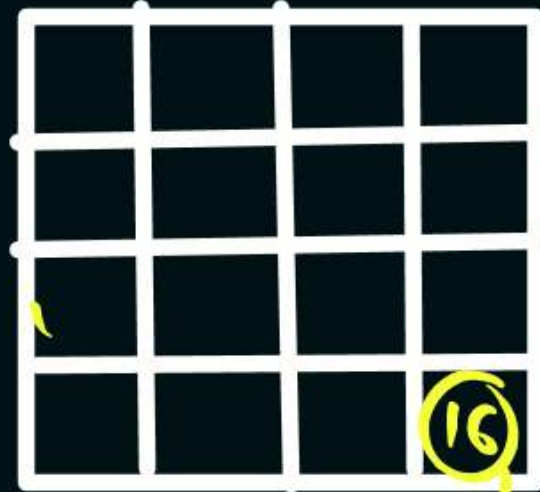
④ 22

$\therefore 23 + 2 + 3 = 28$

Square (वर्ग)



Case-1.



$$36 + 25 + 30 = \textcircled{91}$$

$$16 \Rightarrow 4^2 + 3^2 + 2^2 + 1^2$$

$$= \boxed{30} \text{ Ans.}$$

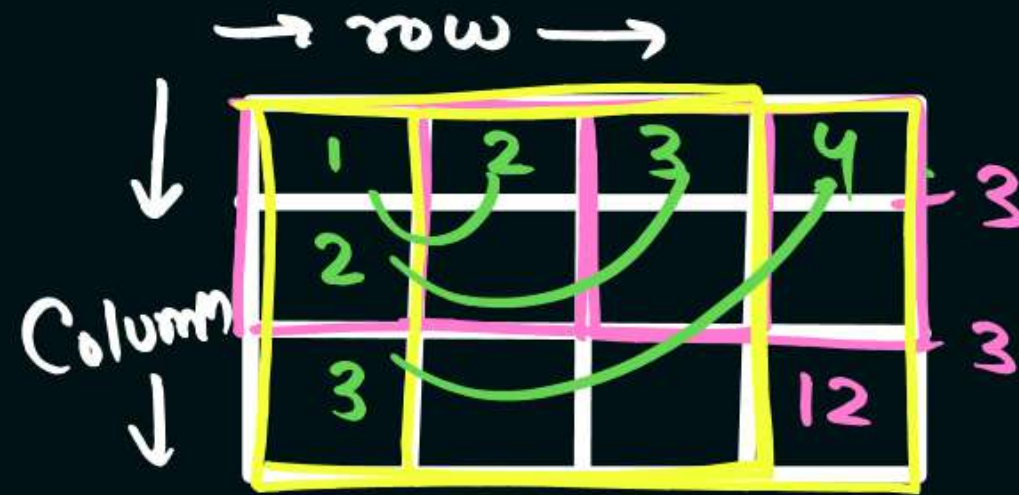
$$\textcircled{36} \rightarrow \text{sq.} = ?$$

$$6^2 + 5^2 + 30$$

Case-2. if total Small Square is not in Perfect Sq. = ?

Trick.

$$\begin{array}{r}
 4 \times 3 = 12 \\
 | \quad | \\
 3 \times 2 = 06 \\
 | \quad | \\
 2 \times 1 = \underline{02} \\
 \quad \quad \underline{20}
 \end{array}$$



$$18 + 2 = \textcircled{20}$$

= Square = ?

→ row →

Column ↓

1	2	3
2		
3		
4		
5		

$$5 \times 3 = 15$$

↓

$$4 \times 2 = 08$$

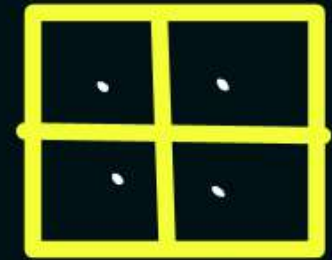
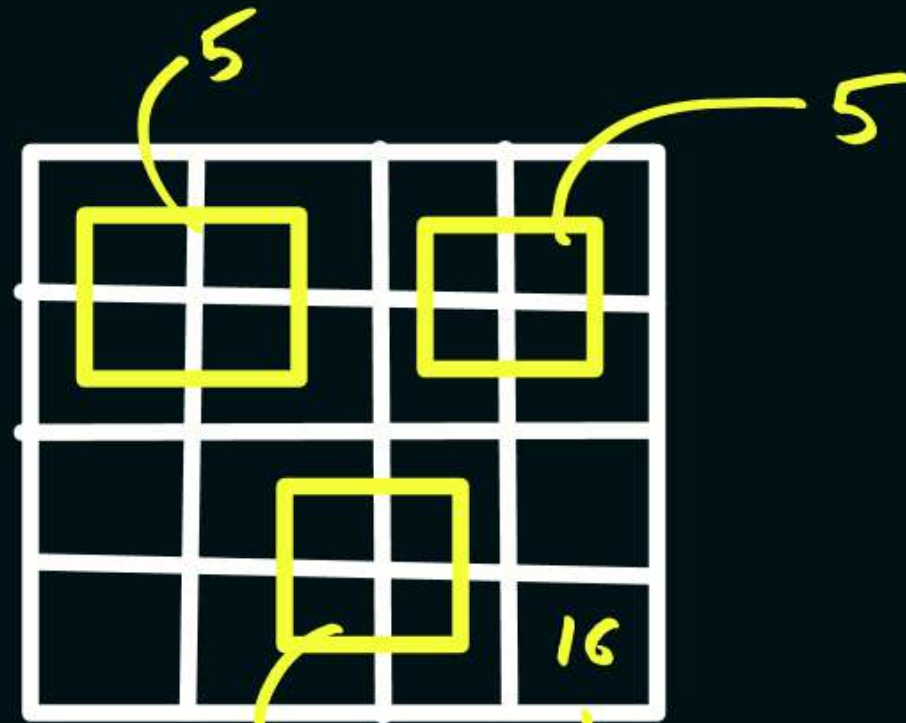
↓

$$3 \times 1 = 03$$

26

✓

Mix Questions.



→ 5

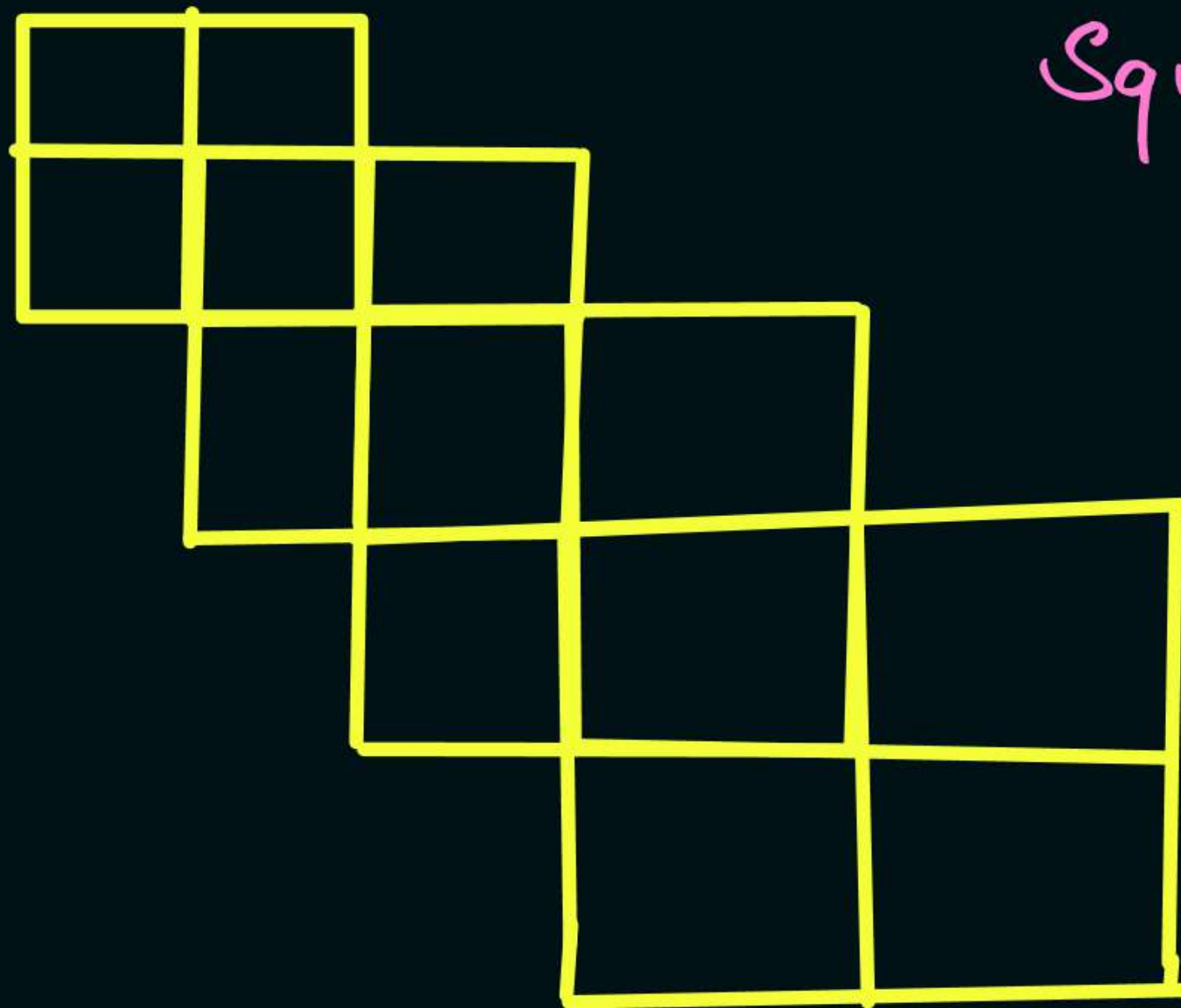
5.

$$4^2 + 3^2 + 2^2 + 1^2$$

$$= 30 + 15$$

$$= 45$$

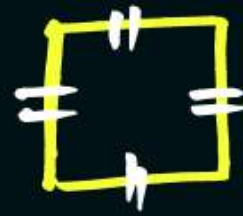
Homework:



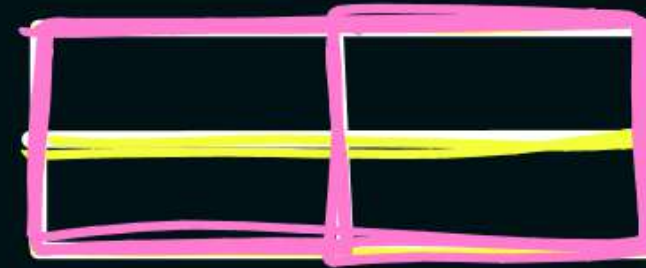
Square = ?

Case 1 + Case-2

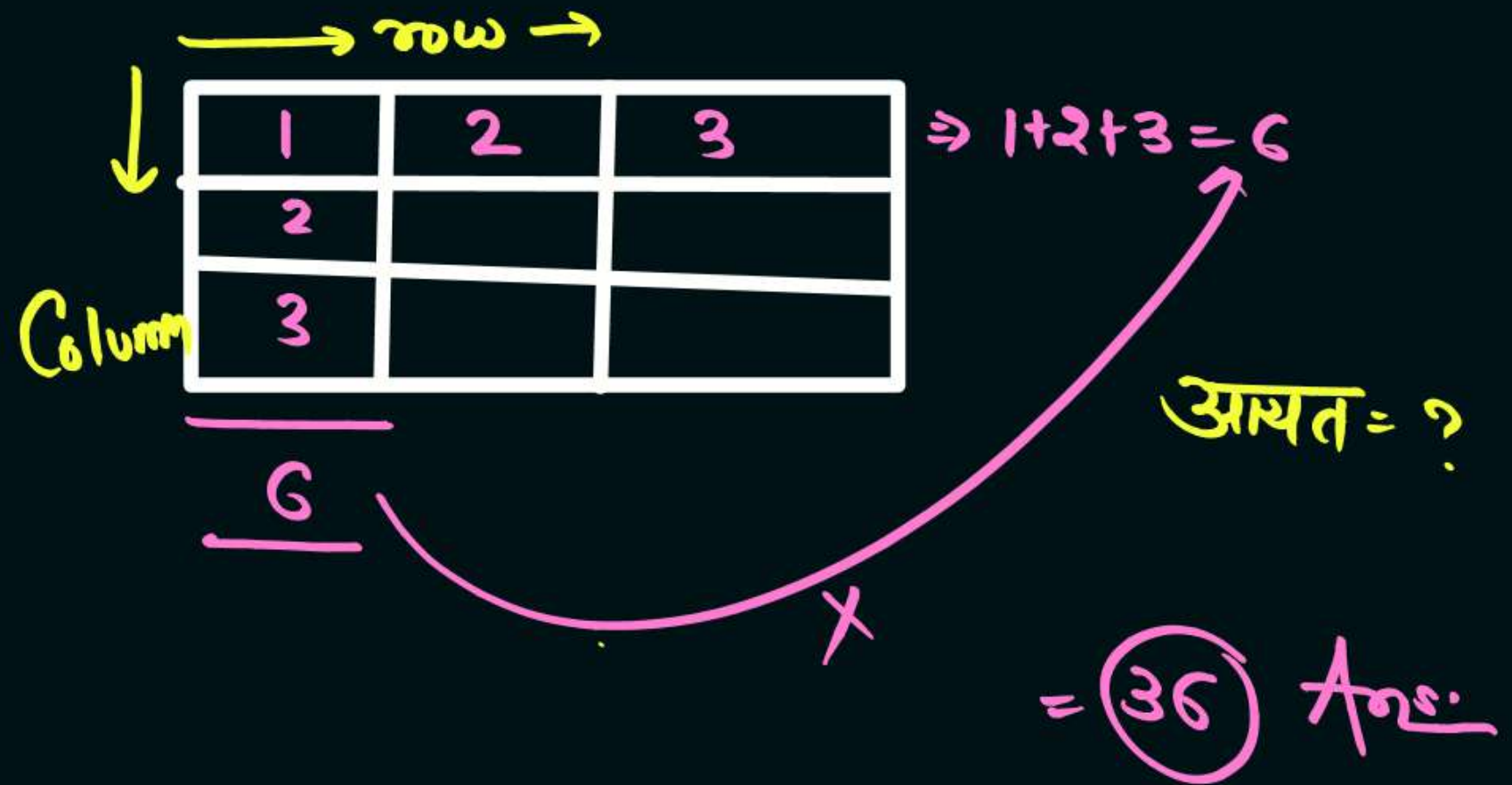
Rectangle

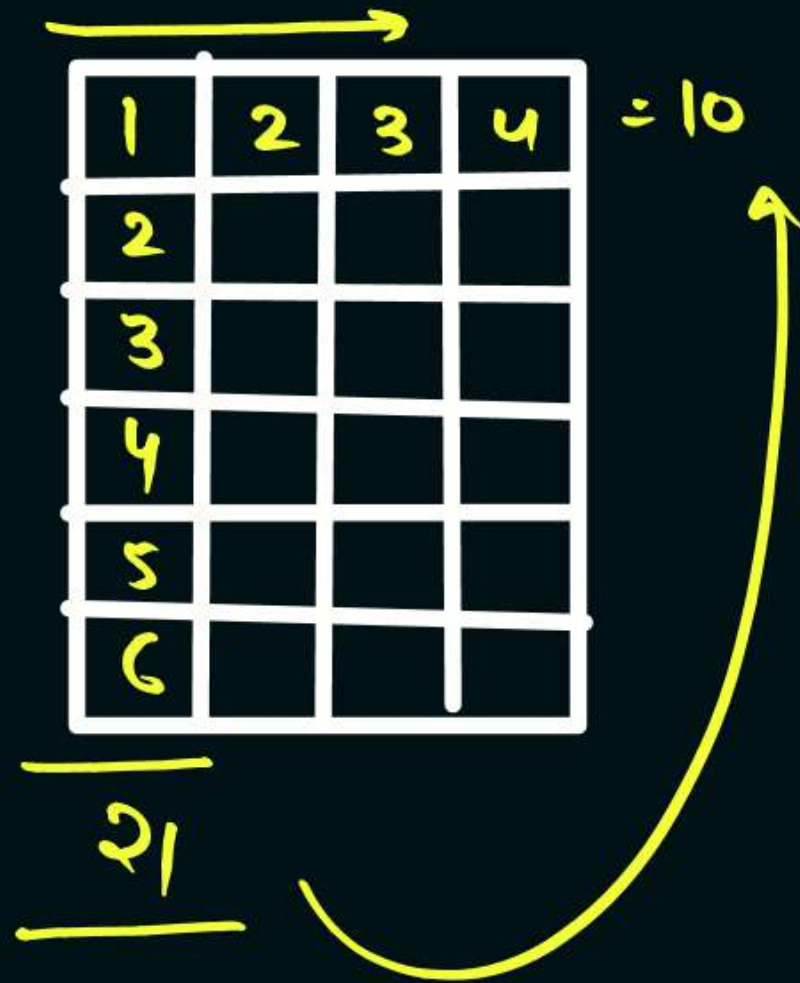


वर्ग = आयत $\neq$ वर्ग



= 9





= 10

$$21 \times 10 = 210$$

Prefix Questions.

1	2	3

1	1
2	2
	3
	4

આચત = ?

$$1+2+3+4 = 10 + 8$$

$$= \textcircled{18} \text{ Ans.}$$