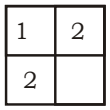
COUNTING OF FIGURES

Square

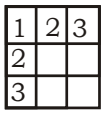
1. Find the no. of Square



If Rows and Column are equal

Square : $(1)^2 + (2)^2 = 1 + 4 = 5$

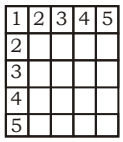
2.



Square: $(1)^2 + (2)^2 + (3)^2$

$= 1 + 4 + 9 = 14$

3.



Square = ?

$(1)^2 + (2)^2 + (3)^2 + (4)^2 + (5)^2$

$1 + 4 + 9 + 16 + 25 = 55$

This tricks is followed, when rows and columns are equal.

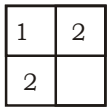
Formula:-

$$\sum n^2 = \frac{n(n+1)(2n+1)}{6}$$

$$= \frac{5(5+1)(2\times 5+1)}{6}$$

$$= \frac{5\times 6\times 11}{6} = 55$$

Rectangle:

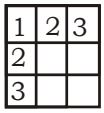


No. of rectangles = ?

$(1)^3 + (2)^3 = 1 + 8 = 9$

Rectangle

4.

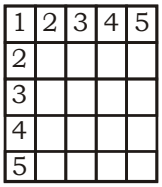


Find the no. of rectangles

$= (1)^3 + (2)^3 + (3)^3$

$=1 + 8 + 27 = 36$

5.



Find no. of rectangle

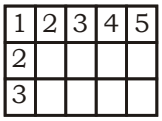
$= (1)^3 + (2)^3 + (3)^3 + (4)^3 + (5)^3$

$= 1 + 8 + 27 + 64 + 125 = 225$

Formula:- $\sum n^3 = \left[\frac{n(n+1)}{2}\right]^2$

Rectangle: when Rows and Columns are equal.

❒ **Type - 3.**

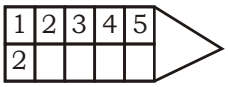


Find the no. of Square?

Sol. $5 \times 3 + 4 \times 2 + 3 \times 1$ Stop

$15 + 8 + 3 = 26$ No. of Square

6.

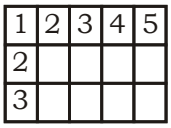


Find the no. of Square.

Sol. $5 \times 2 + 4 \times 1$

$10 + 4 = 14$

7.



Find the no of Square.

Sol. $5 \times 3 + 4 \times 2 + 3 \times 1$ Stop

$= 15 + 8 + 3 = 26$

Type 4.

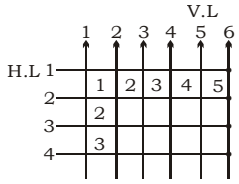
Formula:

Rectangle = $(n_1)_{C_1} \times (n_2)_{C_2}$ (H: Horizontal, V: Vertical)

n_1 = No. of Horizontal line

n_2 = No. of Vertical line

8. H.L



Find the no. of rectangle

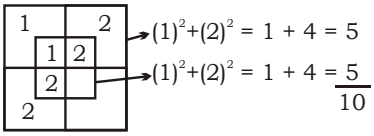
Sol. $R = {}^{n_1}C_2 \times {}^{n_2}C_2$

$= {}^4C_2 \times {}^6C_2$

$= \frac{4\times 3}{2} \times \frac{6\times 5}{2}$

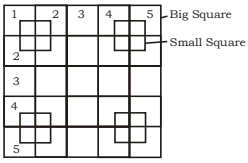
$6 \times 15 = 90$

9.



No. of Square = 10

10.



Big Square (Rows = Column) n = 5

$= \sum n^2 = \frac{n(n+1)(2n+1)}{6}$

$= \frac{5\times 6\times 11}{6} = 55$

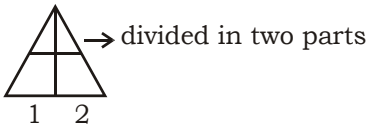
Small square $5 \times 4 = 20$

$55 + 20 = 75$

❒ **Triangle**

1.

2.

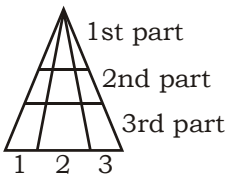


We have to multiply on that section where they will divided.

$1 + 2 \times 2$

$3 \times 2 = 6$ No of triangle

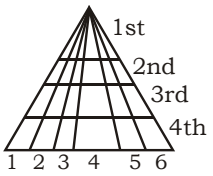
Q.



No of triangle ?

$1 + 2 + 3 = 6 \times 3$ part $= 18$ triangle

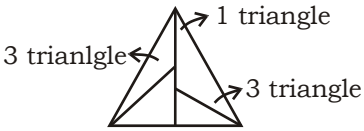
Q.



$1 + 2 + 3 + 4 + 5 + 6 = 21$

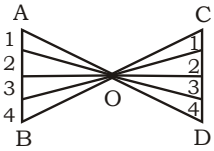
$21 \times 4 = 84$ triangles

Q.



3 + 3 + 1 : 7 triangle

Q.

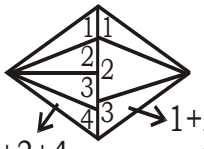


$1 + 2 + 3 + 4 = 10$ DAOB

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

$10 + 10 = 20$ triangle

Q.

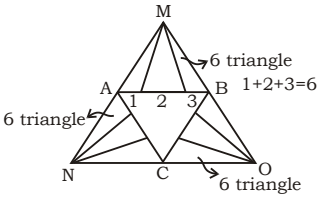


= 6 triangle

= 10 triangle

$10 + 6 = 16$ triangle

Q.



Sol. 6 + 6 + 6 + DABC + DMNO

18 + 1 + 1 = 20 triangle

TYPE INDIVIUAL TRIANGLES

Q.

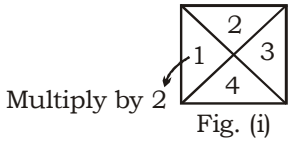


Fig. (i)

Count triangle : 4

$4 \times 2 = 8$ triangle

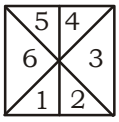


fig.(ii) $6 \times 2 = 12$ triangle

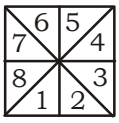
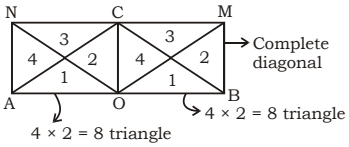


fig (iii) $8 \times 2 = 16$ triangle

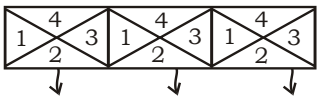
Q.



Sol 8 + 8 + DABC + DMNO

16 + 1 + 1 = 18 triangle

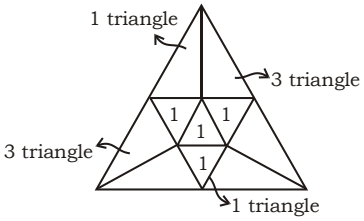
Q.



8 triangle 8 triangle 8 triangle

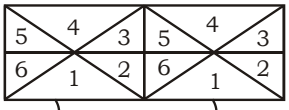
8 + 8 + 8 + 2 + 2 = 28 triangle

Q.



3 + 3 + 3 + 4 + 1 + 1 = 15 triangle

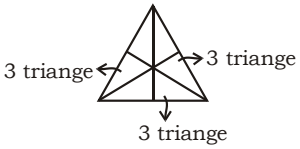
Q.



6 × 2 6 × 2

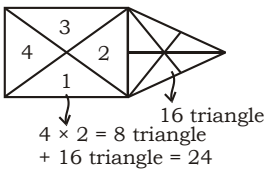
12 + 12 + 4 = 28 triangle

Q.

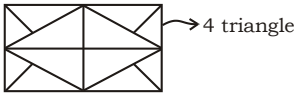


3 + 3 + 3 + 7 = 16 triangle

Q.

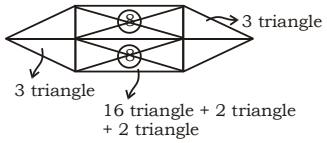


Q.



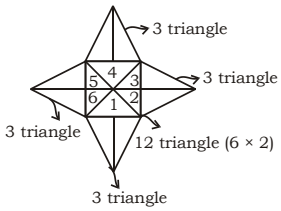
= 4 × 4 = 16 + 4 = 20 triangle

Q.



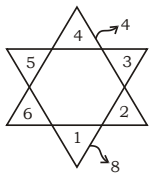
2 + 3 + 3 + 16 + 2 + 2 = 28

Q.



3 + 3 + 3 + 3 + 12 + 4= 28 triangle

Q.

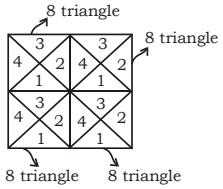


No of triangle 8

Q.

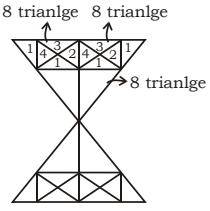
5 + 5 = 10 triangle

Q.



8+8+8+8+2+2+2+2+4= 44 triangle

Q.



8 + 8 + 2 + 2 + 3

23 + 7 = 30 × 2 =60