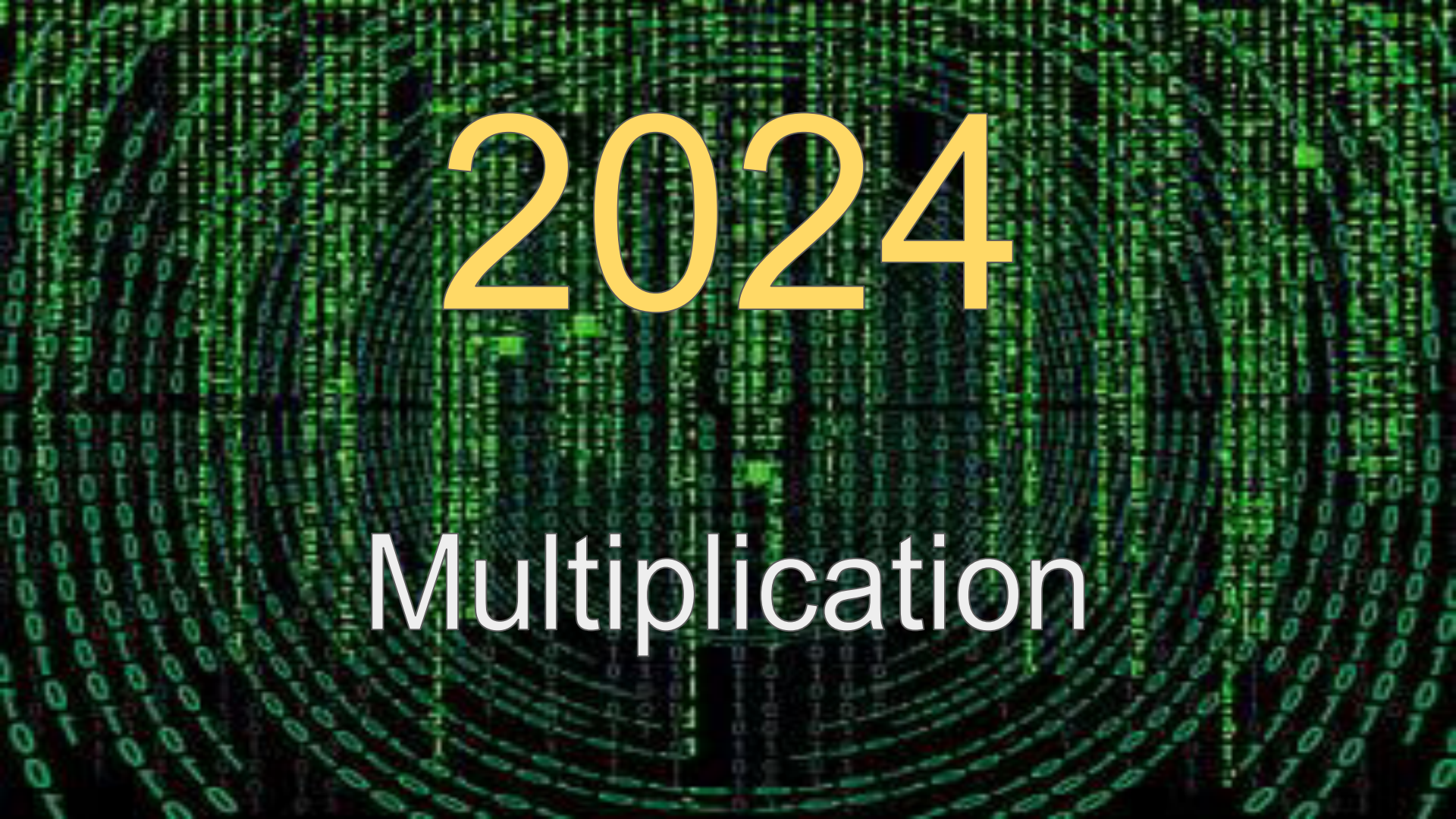
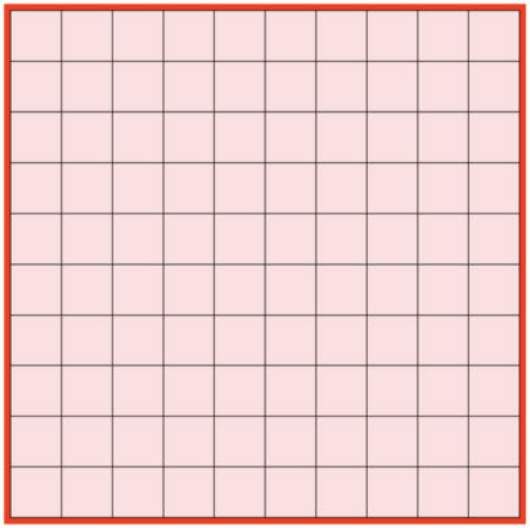
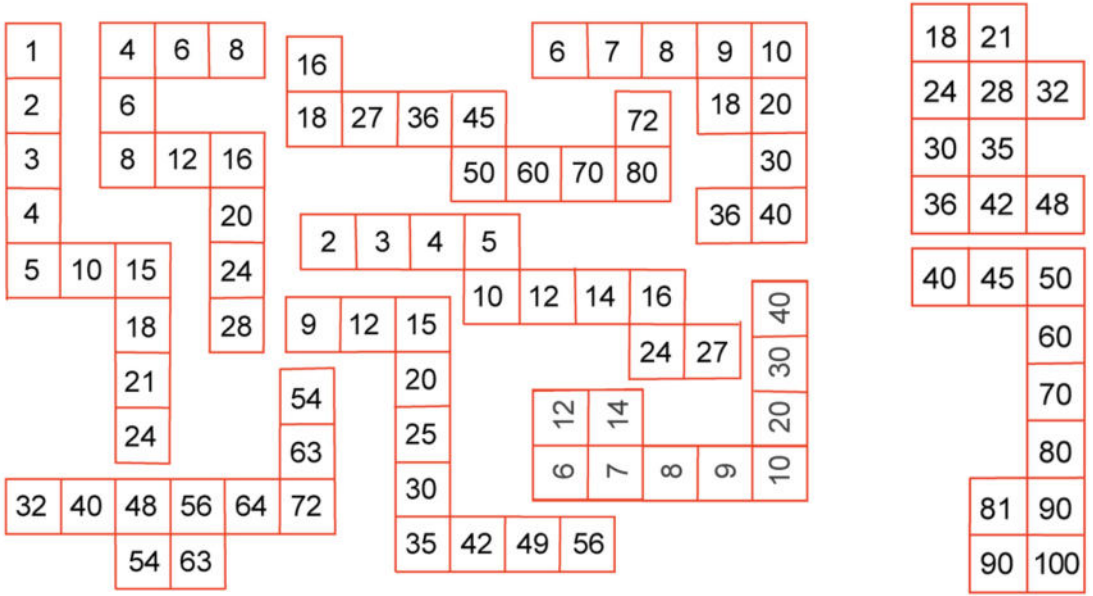

2024
Multiplication

Complete the puzzle

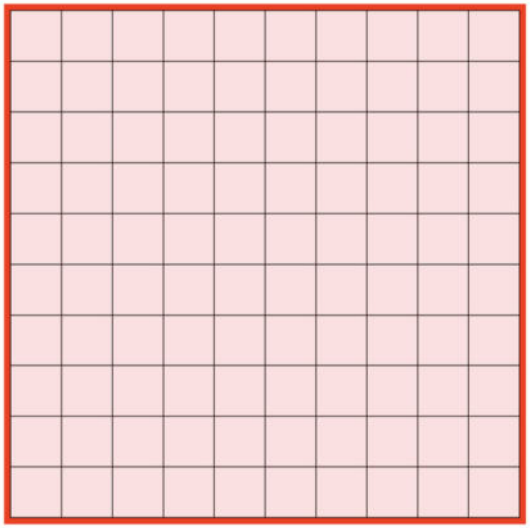


What is the smallest number in the square? Where does that go?
Can you find the piece with it on?
How about the largest number? Where would that be placed in the grid?
What patterns do you notice in the pieces you have put in?
Can you continue the patterns and therefore fit some more pieces in?

This table is full of patterns - what are they - share them with us!



Complete the puzzle



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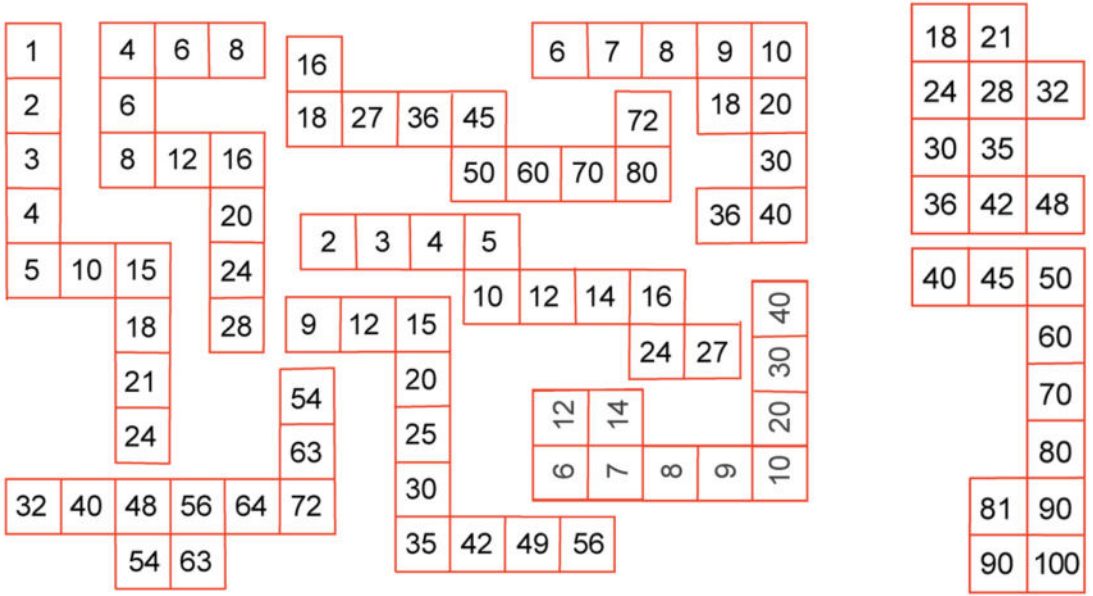

1	2	3	4	5	6	7	8	9	10
2	4	6	8	10	12	14	16	18	20
3	6	9	12	15	18	21	24	27	30
4	8	12	16	20	24	28	32	36	40
5	10	15	20	25	30	35	40	45	50
6	12	18	24	30	36	42	48	54	60
7	14	21	28	35	42	49	56	63	70
8	16	24	32	40	48	56	64	72	80
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1	2	3	4	5	6	7	8	9	10
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6	12	18	24	30	36	42	48	54	60
7	14	21	28	35	42	49	56	63	70
8	16	24	32	40	48	56	64	72	80
9	18	27	36	45	54	63	72	81	90
10	20	30	40	50	60	70	80	90	100

1. Is it true that there are more even numbers/products on the 10 x 10 Multiplication grid than odd numbers?
    - Yes/ No?
    - Why?

1. How many numbers/products only appear once on the multiplication grid?
    - How many numbers are repeated?

1. Which number/products appears the most?

1	2	3	4	5	6	7	8	9	10
2	4	6	8	10	12	14	16	18	20
3	6	9	12	15	18	21	24	27	30
4	8	12	16	20	24	28	32	36	40
5	10	15	20	25	30	35	40	45	50
6	12	18	24	30	36	42	48	54	60
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1	2	3	4	5	6	7	8	9	10
2	4	6	8	10	12	14	16	18	20
3	6	9	12	15	18	21	24	27	30
4	8	12	16	20	24	28	32	36	40
5	10	15	20	25	30	35	40	45	50
6	12	18	24	30	36	42	48	54	60
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2	4	6	8	10	12	14	16	18	20
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4	8	12	16	20	24	28	32	36	40
5	10	15	20	25	30	35	40	45	50
6	12	18	24	30	36	42	48	54	60
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5	10	15	20	25	30	35	40	45	50
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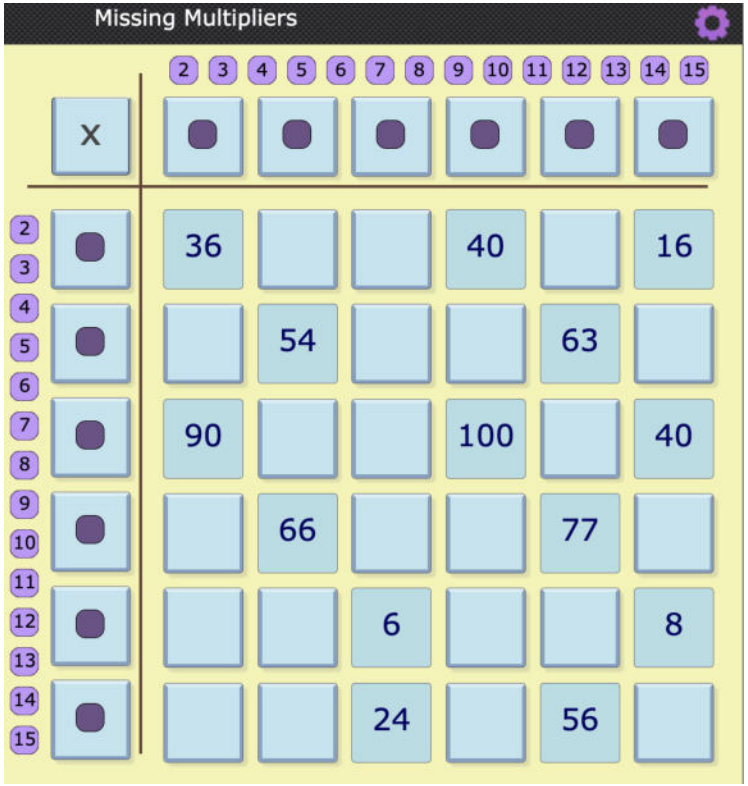
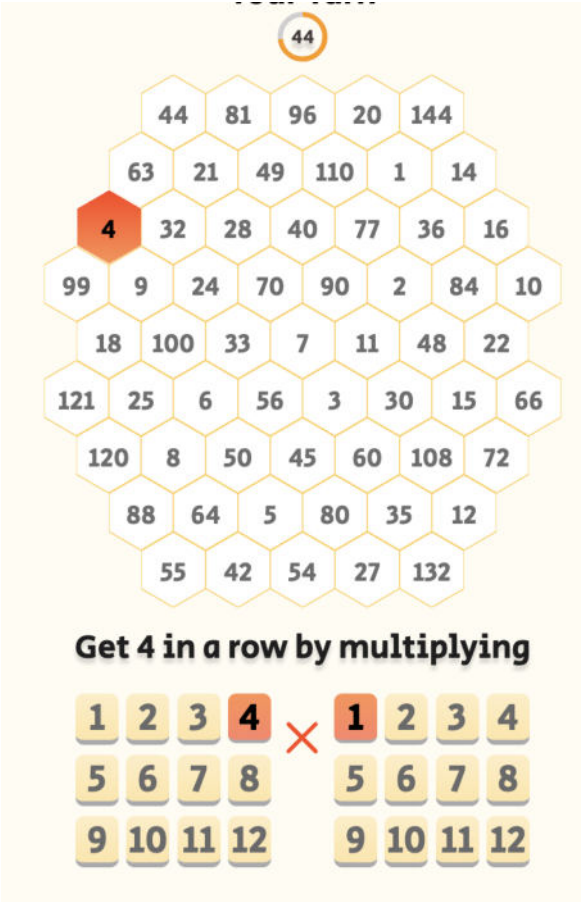


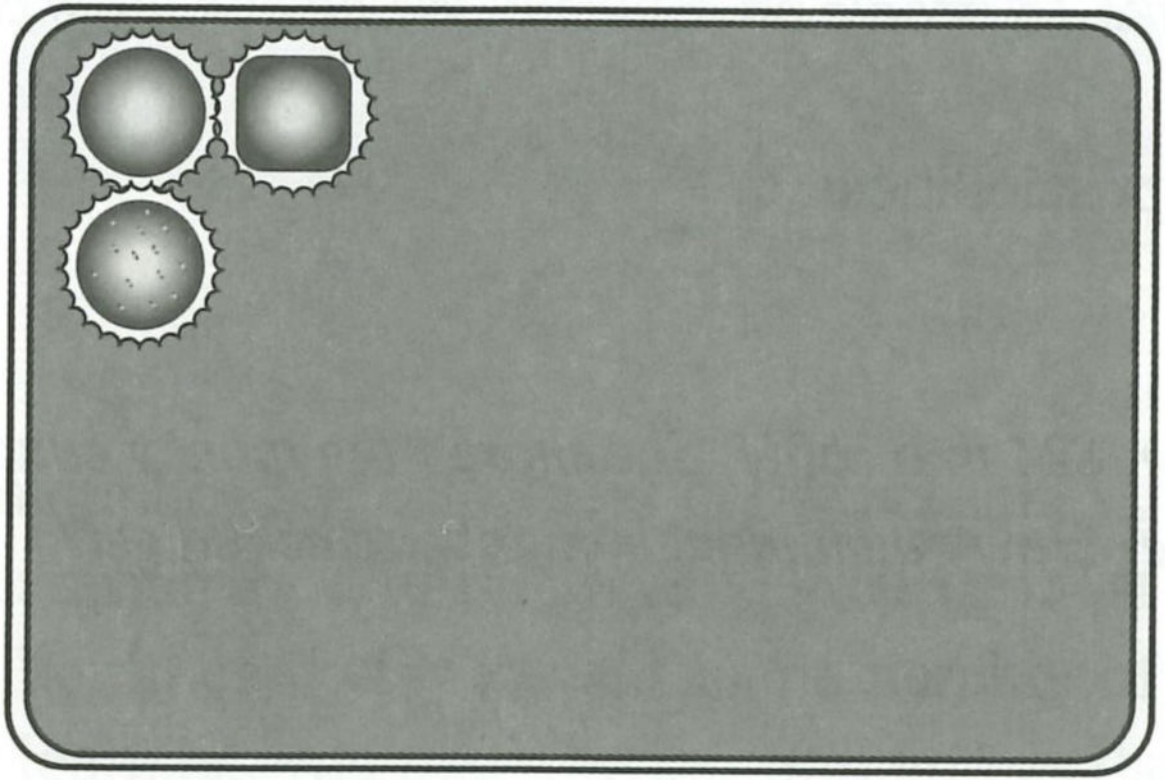
https://nrich.maths.org/mobile

Great Multiplication Games

https://play.numberhive.org/lobby

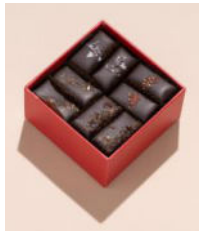


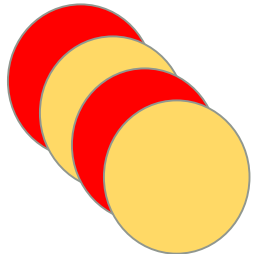
Chocolate Box



I had a full box of chocolates, but someone ate some of the chocolates. The box now look like this…

Part 1 -
What are two ways that I could I work out the number of chocolates I started with?





Chocolate Box - Part 2

Part 2
What other shaped rectangles could you make with 24 chocolates?

Part 3
What if you had:

36 Chocolates?

48 Chocolates?

Part 4
What if you were if you had more than one layer of chocolates in the box?

Chocolate Box - Part 2

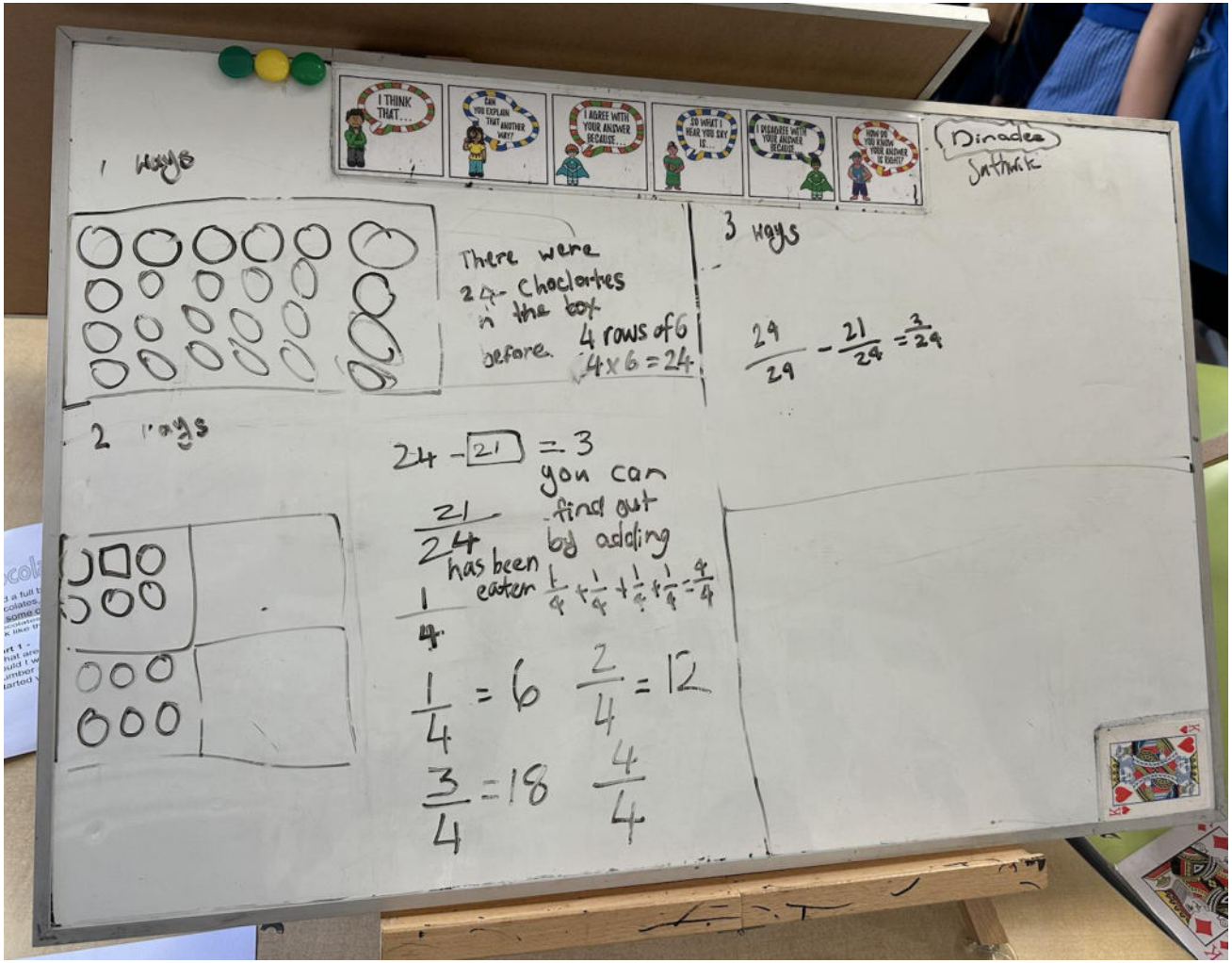
Part 2
What other shaped rectangles could you make with 24 chocolates?

Part 3
What if you had:

36 Chocolates?

48 Chocolates?

Part 4
What if you were if you had more than one layer of chocolates in the box?

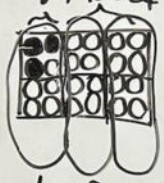

1 ways
There were 24 chocolates in the box before.
4 rows of 6
4 x 6 = 24
2 ways
24 - 21 = 3
21
24
has been eaten
1/4
you can find out by adding
1/4 + 1/4 + 1/4 + 1/4 = 4/4
1/4 = 6
2/4 = 12
3/4 = 18
4/4
3 ways
29/29 - 21/24 = 3/24
Dinadea
Sathwik

Yaeka
Nicole
Lily

4x6=24?

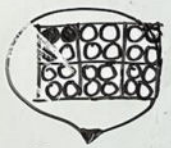
4 rows of 6 = 24

4's
8 + 16 = 24



$\frac{1}{3}$ of 24 = 8

$\frac{2}{3}$ of 24 = 16



$\frac{3}{3}$ of 24 = 24

6 groups of 4

6 x 4 = 4

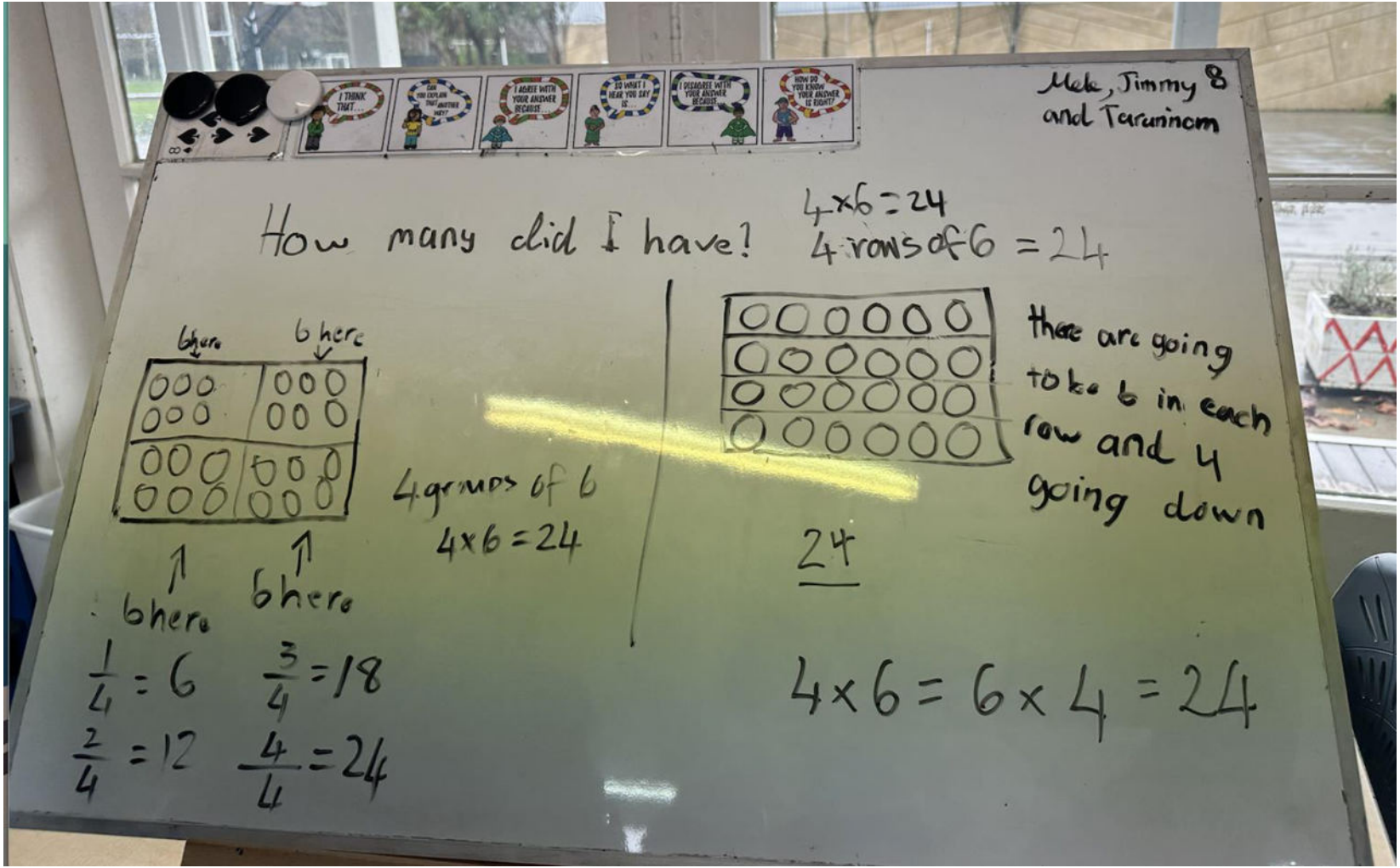
3 groups of 8

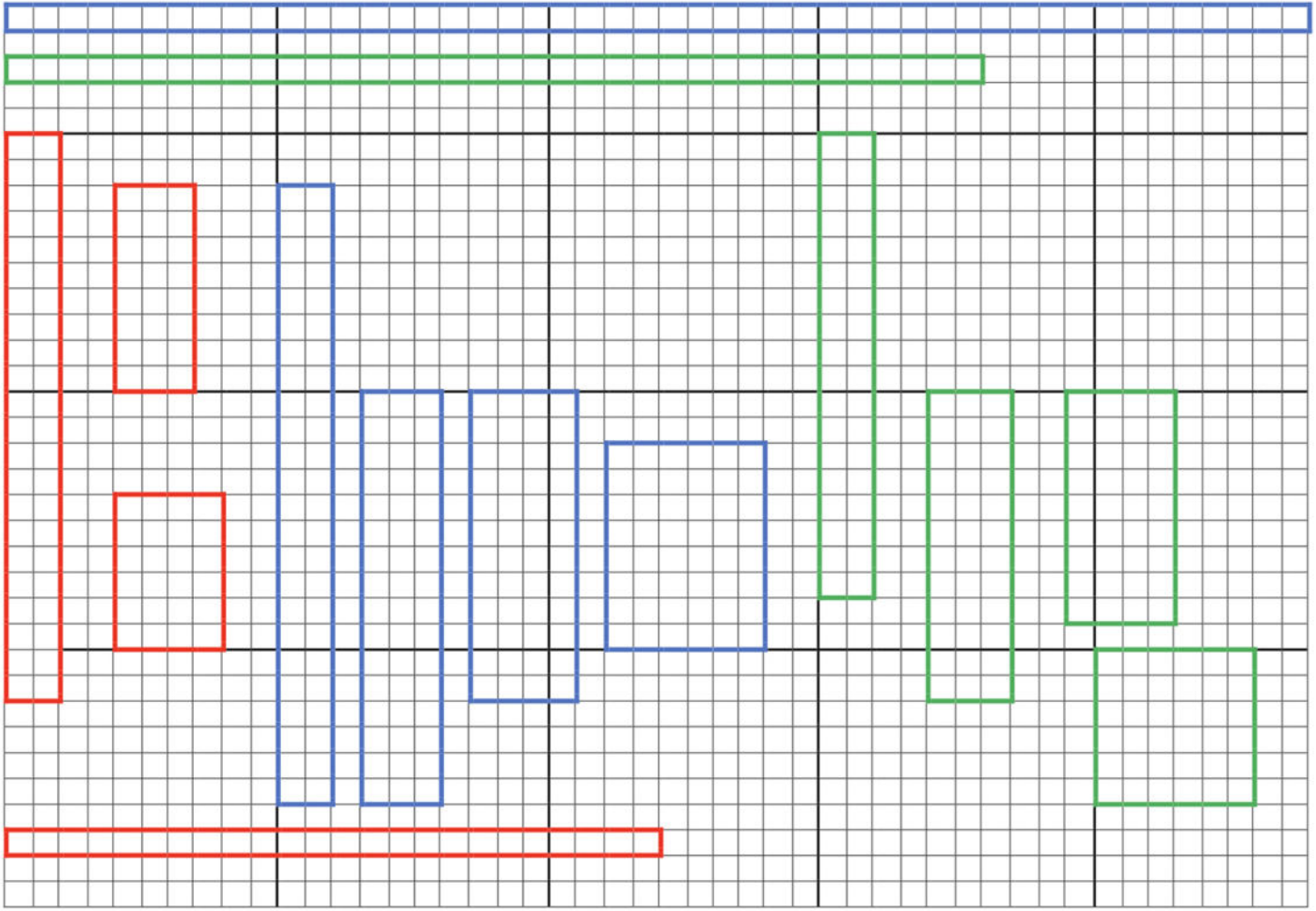
3 x 8 = 24

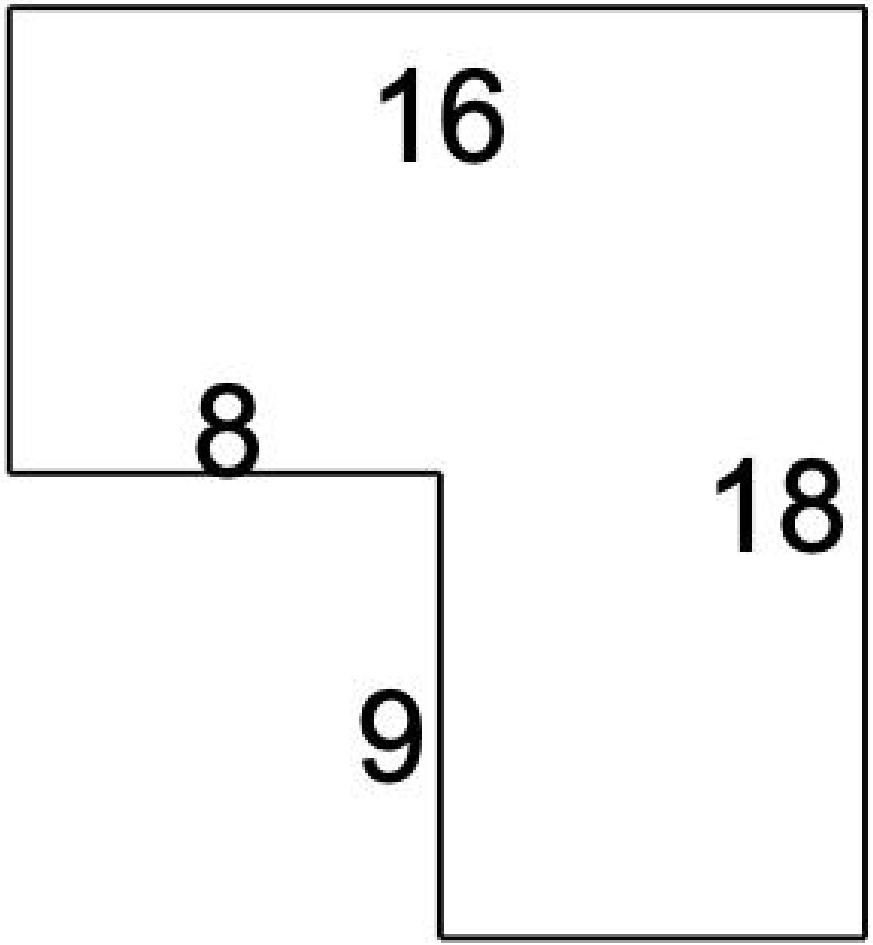
$\frac{3}{24}$ left + → $\frac{21}{24}$ Dad ate = Whole box of Choc $\frac{24}{24}$

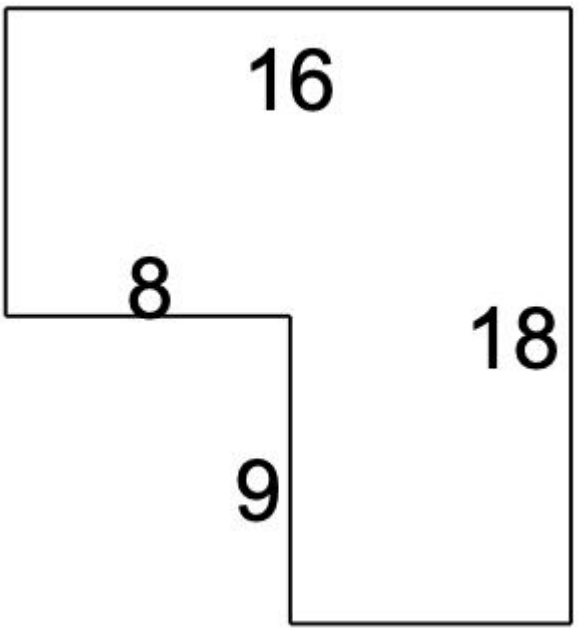
$\frac{75}{100} \xrightarrow{\div 25} \frac{3}{4}$

$\frac{3}{24} \div 3 = \frac{1}{8}$


Mele, Jimmy and Taranimom
How many did I have?
4×6=24
4 rows of 6 = 24
6 here
6 here
4 groups of 6
4×6=24
6 here
6 here
1/4 = 6
3/4 = 18
2/4 = 12
4/4 = 24
there are going to be 6 in each row and 4 going down
24
4×6 = 6×4 = 24




16
8
18
9

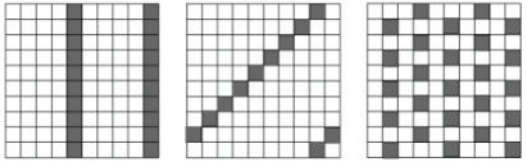

16
8
18
9

DRAWING ON ISOMETRIC PAPER

Tables Patterns Go Wild!

You might have made some times table patterns on hundred squares before. Some tables make vertical lines, some make diagonal lines and some make different patterns. Hundred squares are 10 by 10 grids, and in this problem we will call these '10 grids'.

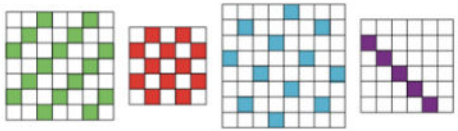
Have a look at the 10 grids below.



Which times tables made these patterns? Why?

We are going to look at the patterns made on square grids of other sizes, from 4 grids (a 4 by 4 grid) to 9 grids.

These are patterns on a 7, a 5, an 8 and a 6 grid:



Which times tables made these patterns? Can you explain why they look like this?

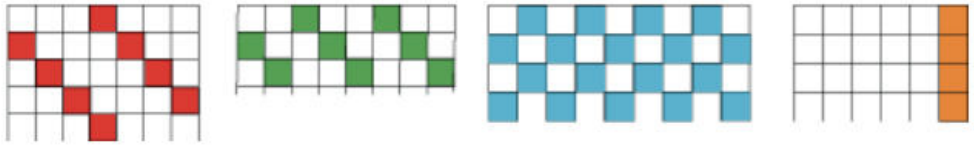
Now it is time to do your own investigations. You can use grids drawn on squared paper.

Have a go at working out what makes vertical and diagonal lines on the different grids.

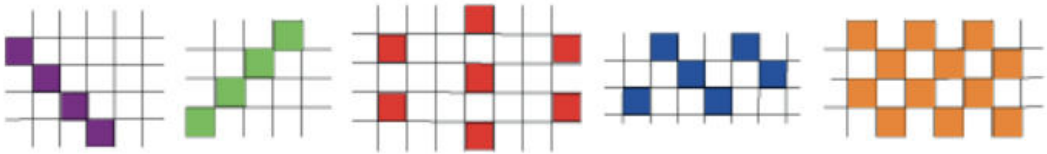
Can you make the checked pattern? What times table do you need to use on each grid?

Tables Patterns Go Wild!

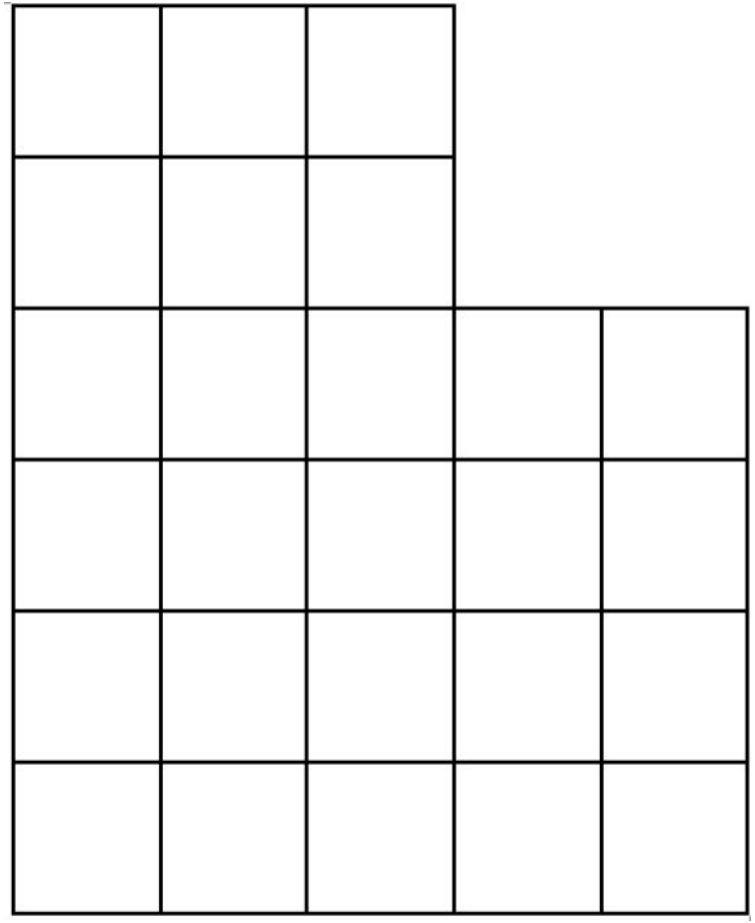
Here are the top parts of some grids.
Can you identify which times table has been used to make each one?



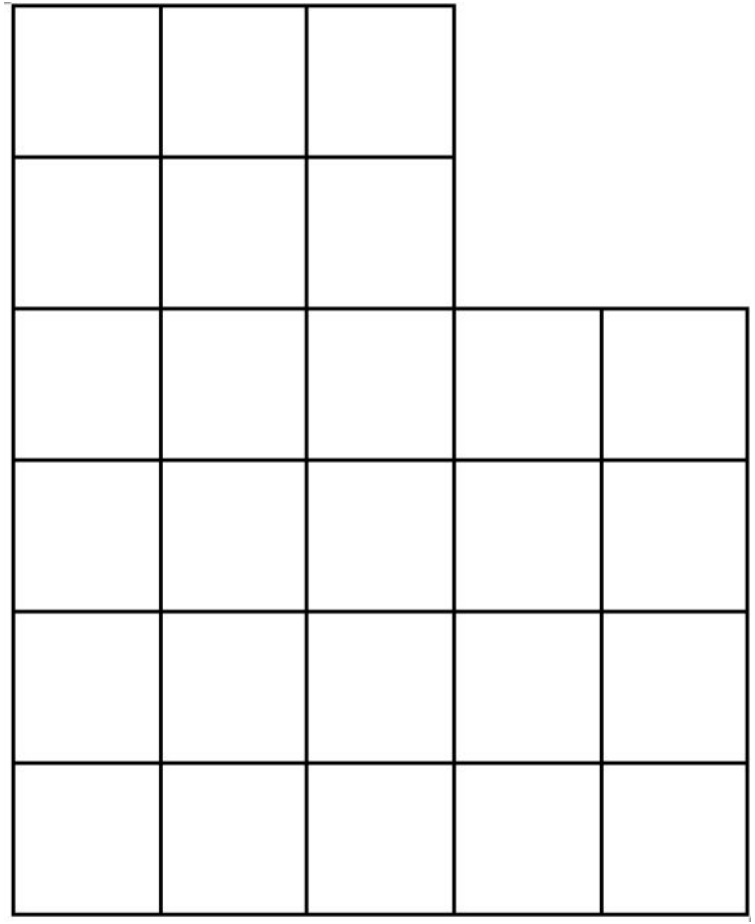
Here are some parts of various grids. This time we have not shown the edges of the grids. Can you identify which times tables on which grids could have been used to make these patterns?

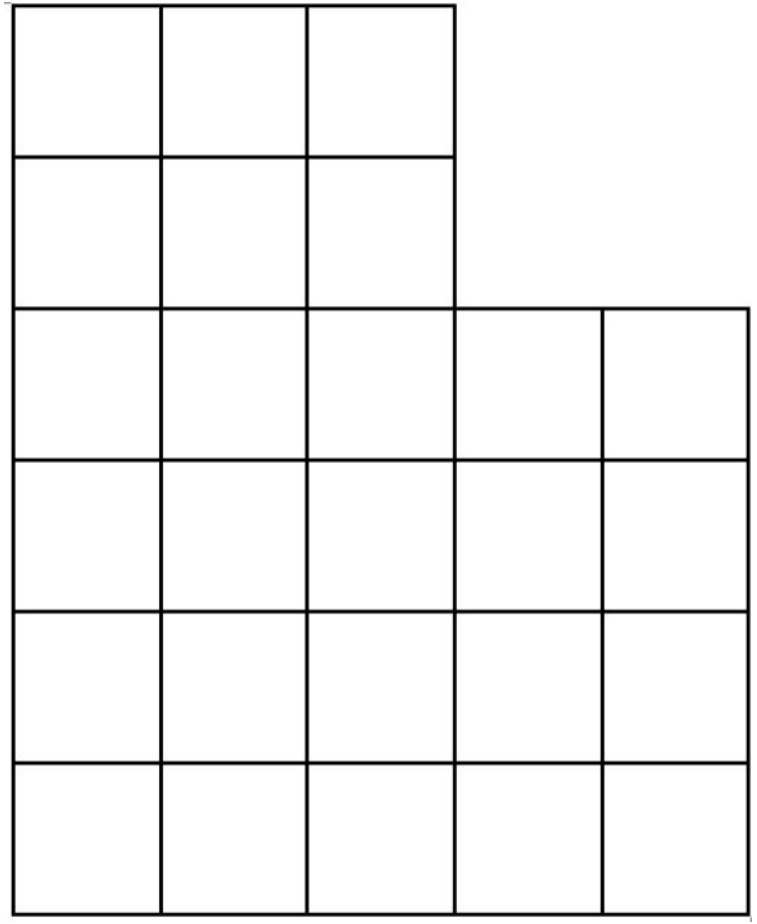


There may be more than one answer.



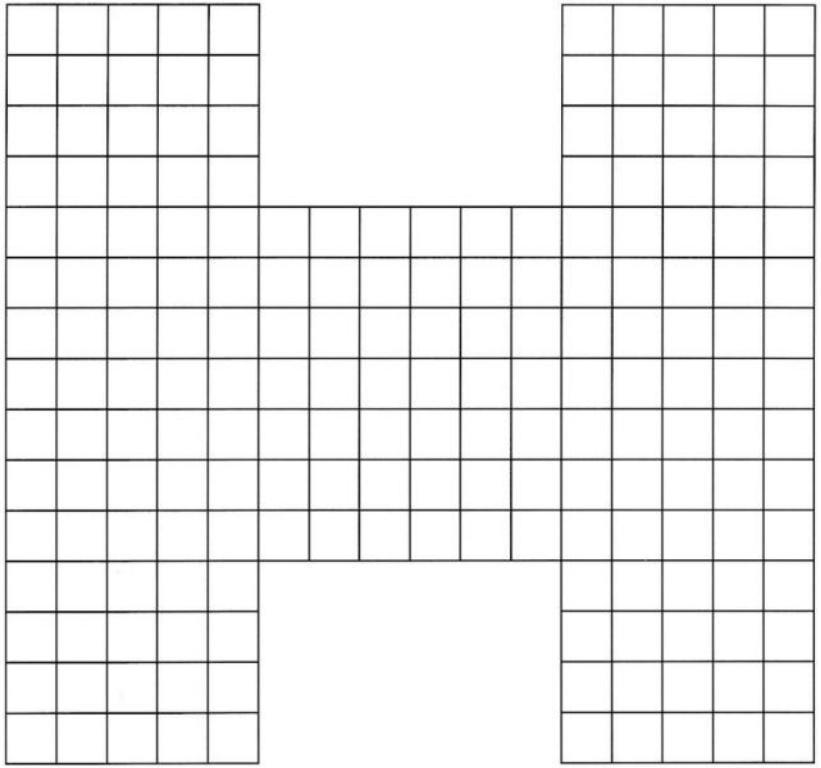
How can you calculate how many small squares there are using two different methods?



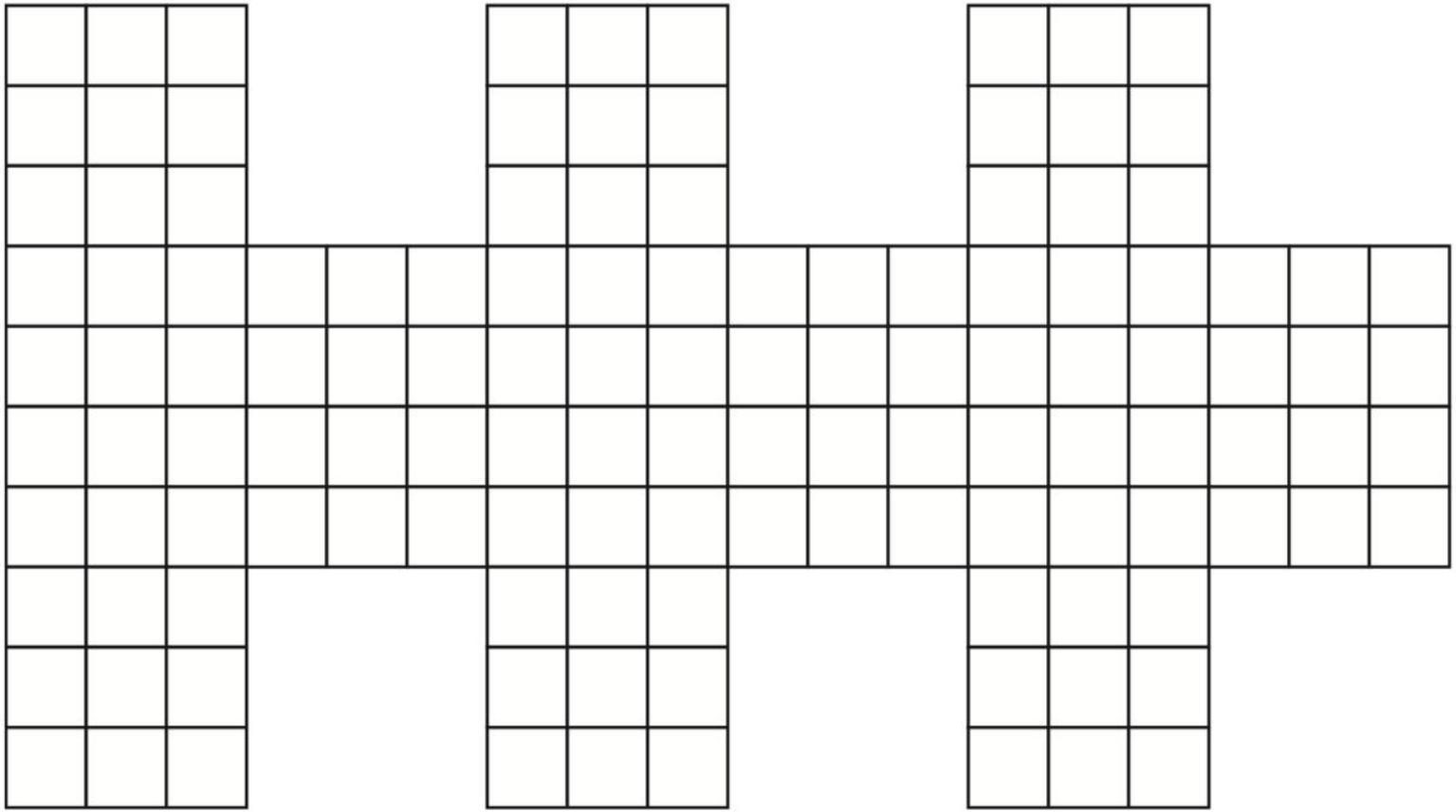


How many small squares have been used to make this shape?

Find the answer using 2 different methods.



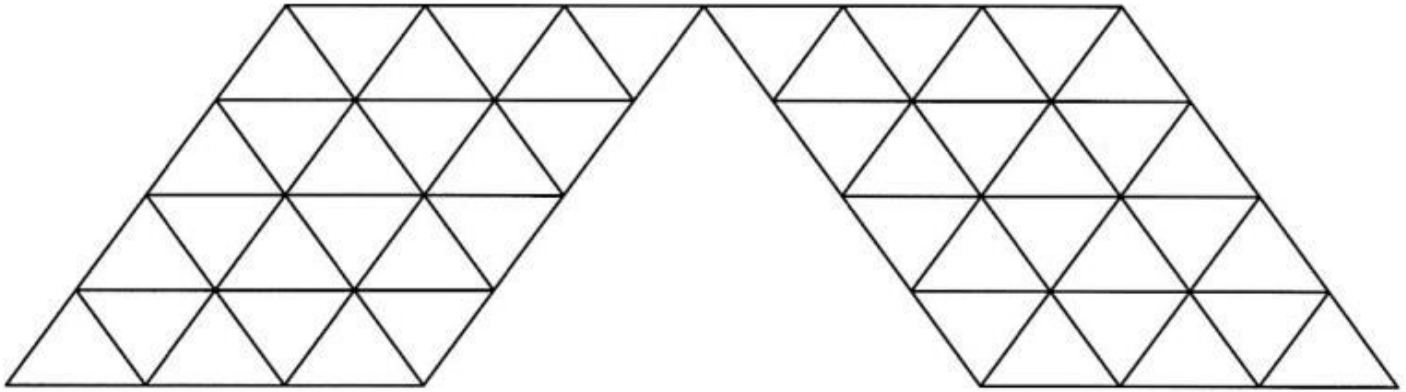
How could you work out how many small squares are in this diagram?



HOW MANY TRIANGLES?

BLM 7

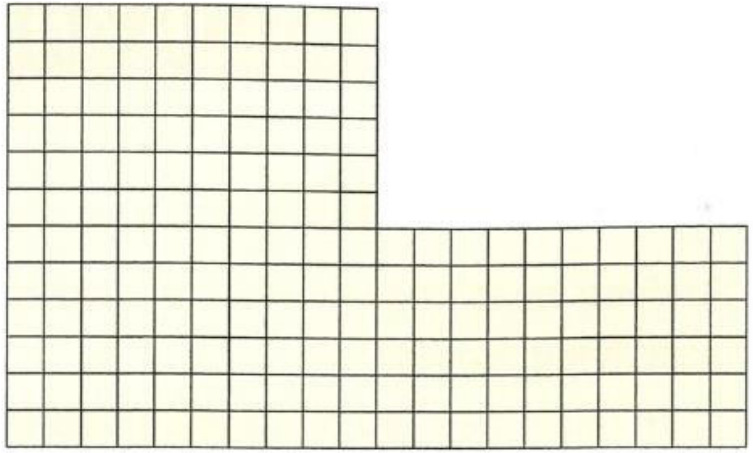
How could you work out how many triangles are in this diagram?



Enabling prompt

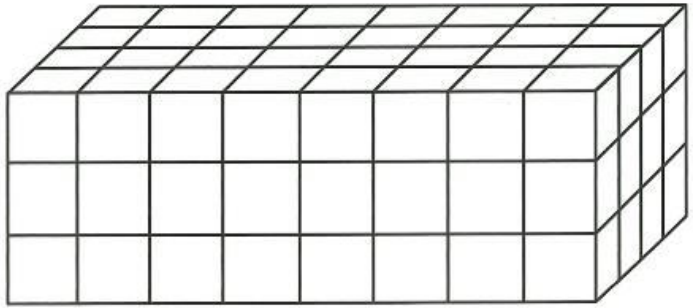
How many small squares have been used to make this shape?

Find the answer in two different ways.



ENABLING PROMPT

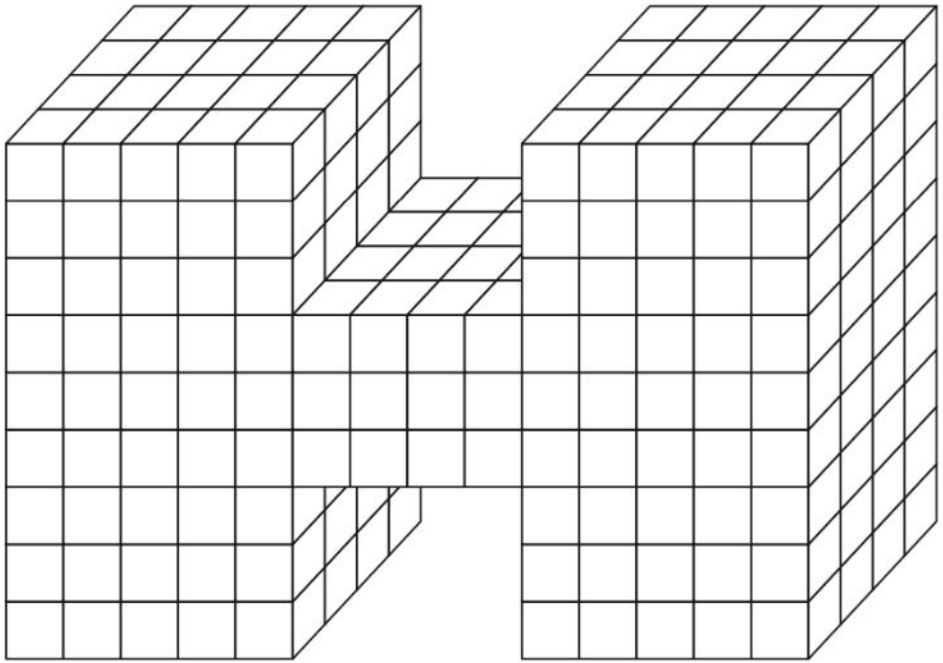
Ask: *How many cubes have been used to make this shape?*



HOW MANY CUBES?

BLM 8

This object is built from small cubes.

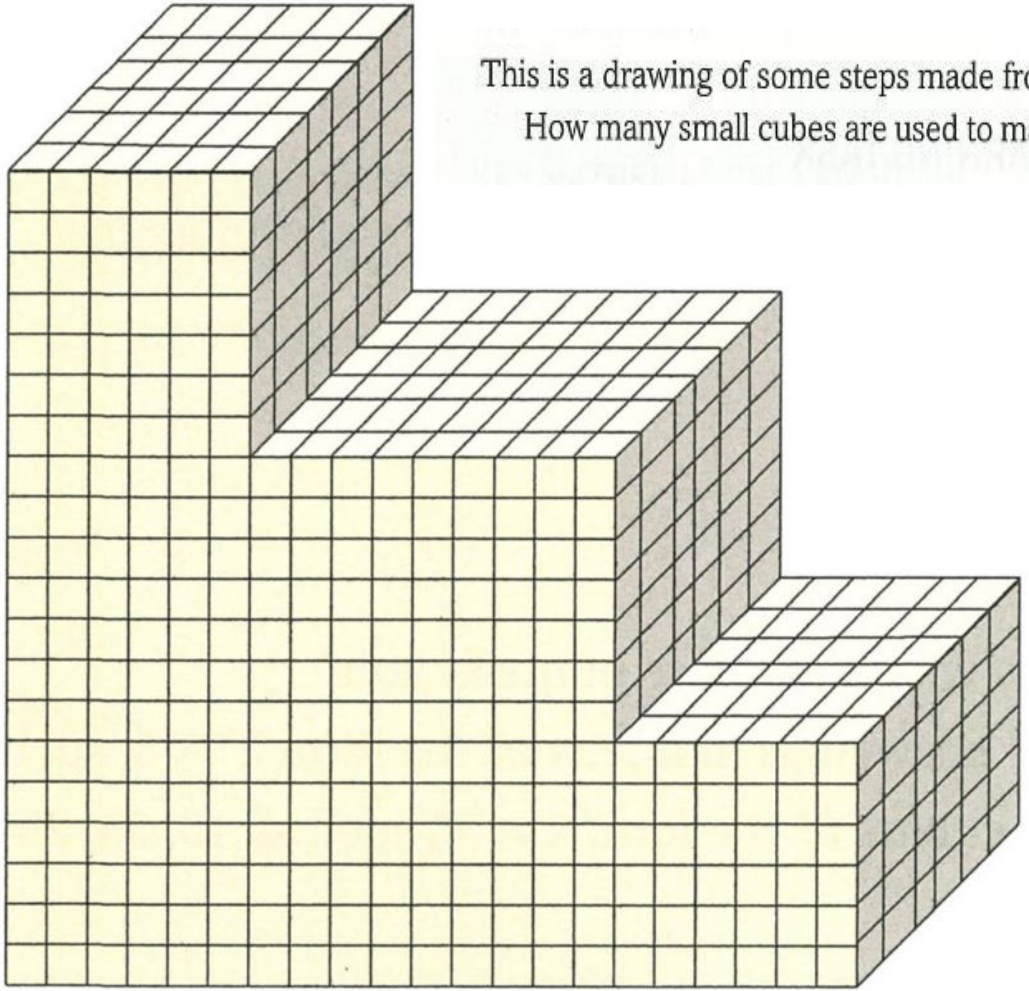


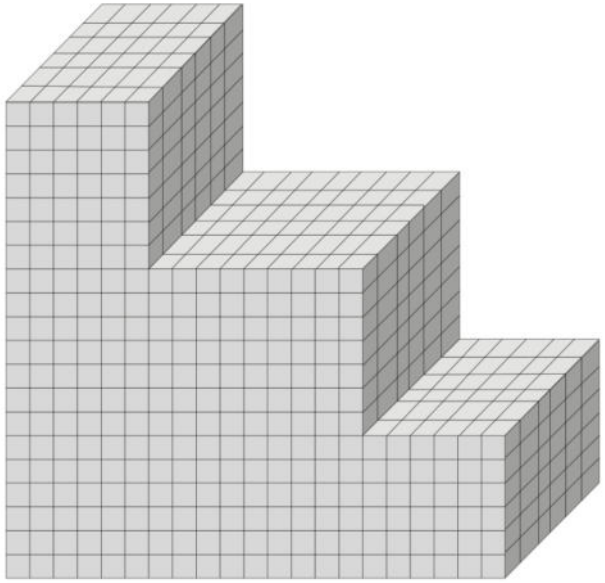
How many small cubes were needed to make this?

Use 2 different ways to work it out.

This is a drawing of some steps made from small cubes.

How many small cubes are used to make the steps? Work out your answer in 2 different ways.





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	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

One hundred chart investigation

Take a look at the outlined square and explore the connection between the numbers then have a chat to your partner about what you notice.

Does what you notice happen on any 3x3 square that you outline?
What about a 4x4? 5x5?
Explore…….