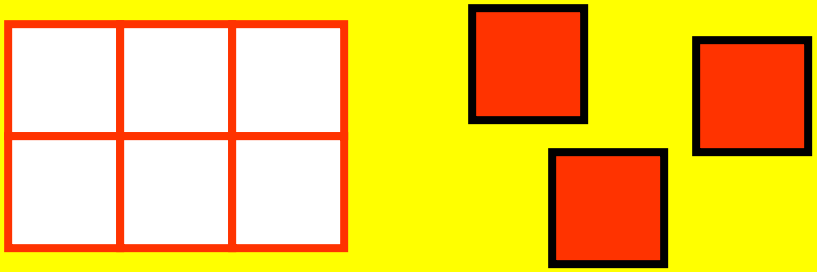
AFTERSATS

summer term mathematics activities for year six

Finding all possibilities:

Here is an oblong (rectangle) 3 squares long and 2 squares wide.

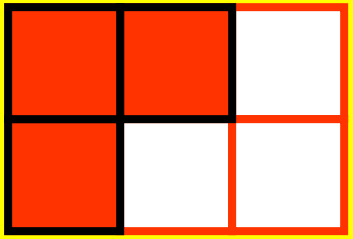


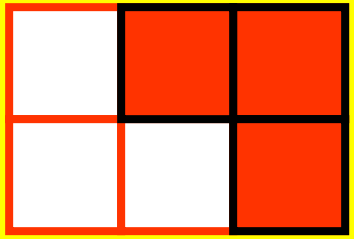
You have three smaller squares. The smaller squares fit in the oblong.

How many different ways can you fit the 3 smaller squares in the large oblong so that half the oblong is shaded?

Rotations and reflections count as the same shape.

Finding all possibilities:



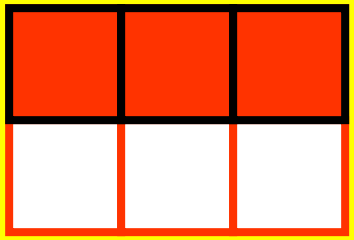


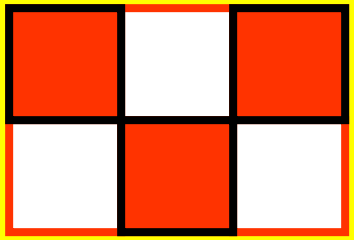
The two above count as the same possibility

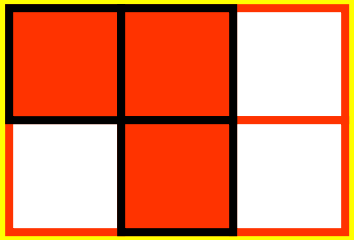
There are six possibilities

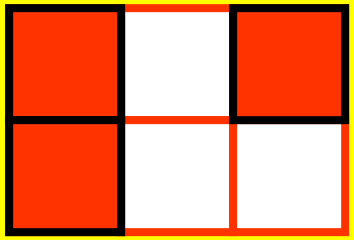
The solution is on the next slide

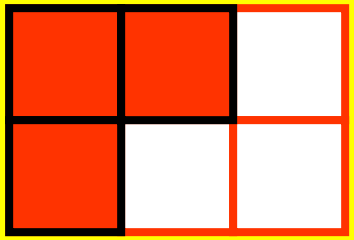
Finding all possibilities:

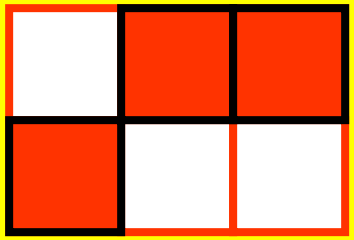










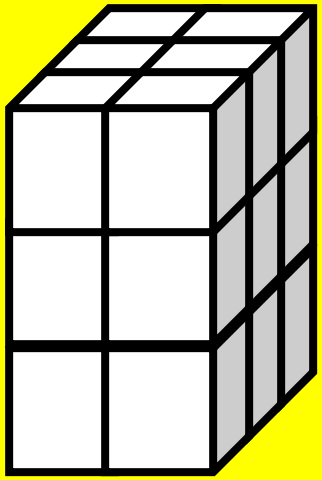


Did you find them all?

Click for answer

A visualisation problem:

A model is made from cubes as shown.



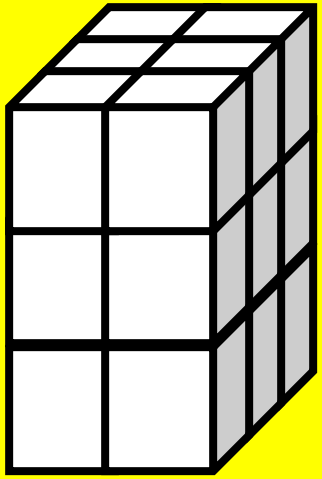
How many cubes make the model?

A part of how many cubes can you see?

How many cubes can't you see?

If the cubes were arranged into a tower what is the most number of the square faces could you see at one time?

Answer



How many cubes make the model?

18

How many part cubes can you see?

14

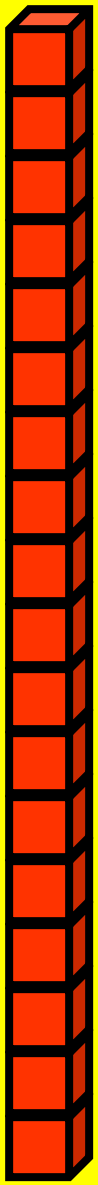
How many cubes can't you see?

4

If the cubes were arranged into a tower what is the most number of the square faces could you see at one time?

Answer

If the cubes were arranged into a tower what is the most number of the square faces could you see at one time?

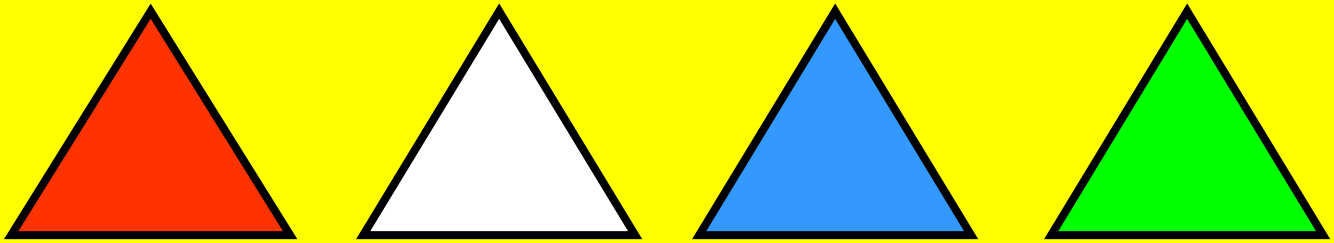


Answer

Finding all possibilities:

You have 4 equilateral triangles.

How many different shapes can you make by joining the edges together exactly?

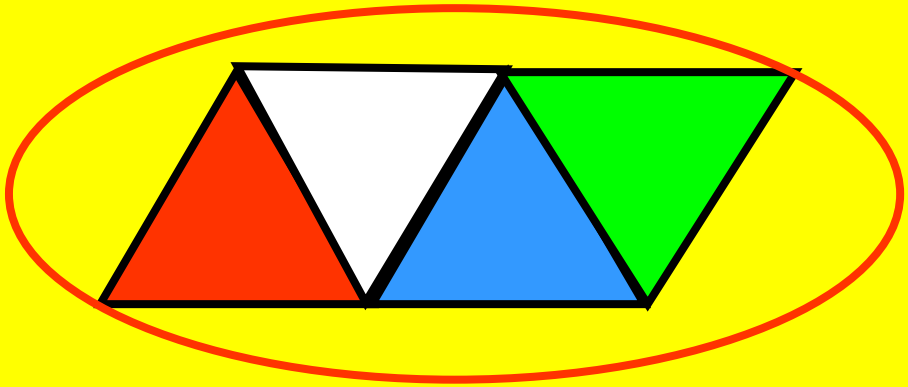


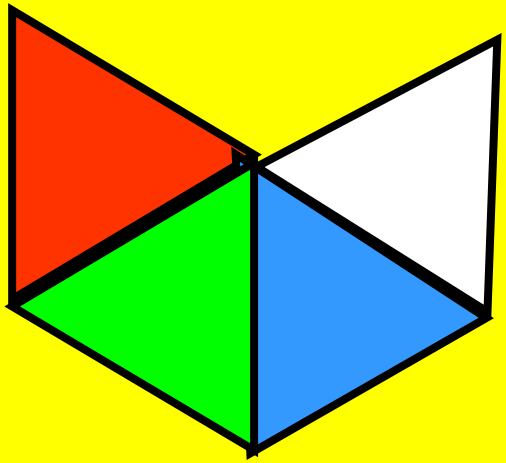
How many of your shapes will fold up to make a tetrahedron?

Answer

Finding all possibilities:

You can make three shapes

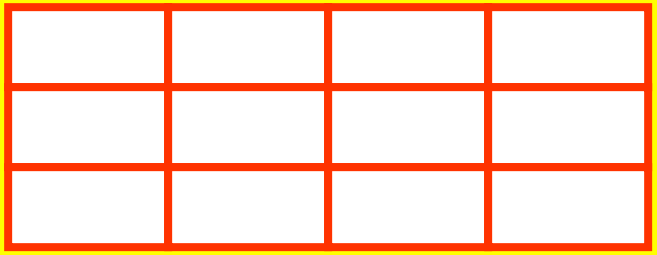




Two make the net of a tetrahedron

Finding all possibilities:

How many oblongs (rectangles) are there altogether in this drawing?

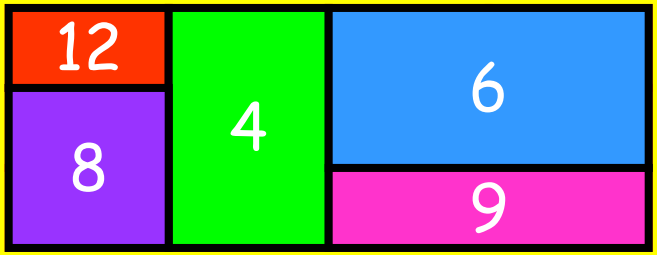


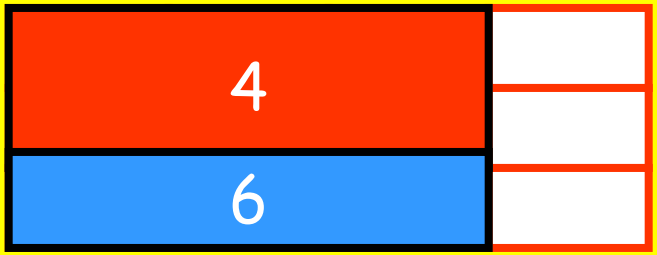
Answer

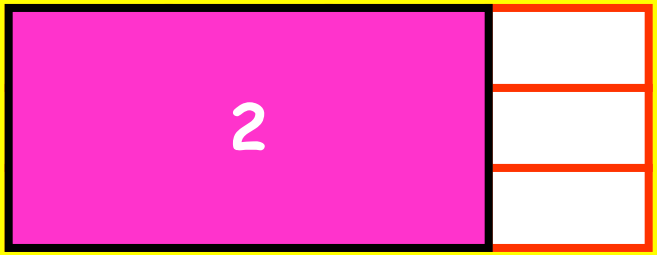
Finding all possibilities:

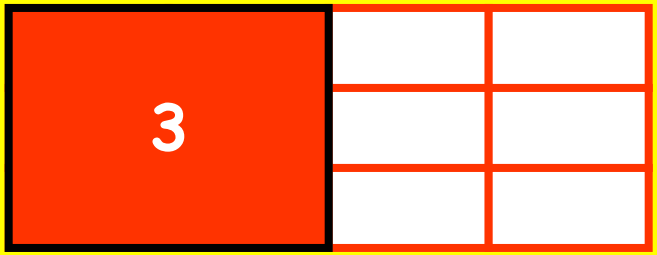
How many oblongs (rectangles) are there altogether in this drawing?

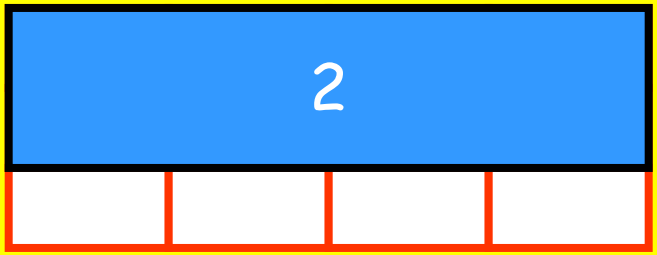
Look at the available oblongs (rectangles). Colour indicates size. Number of each type shown

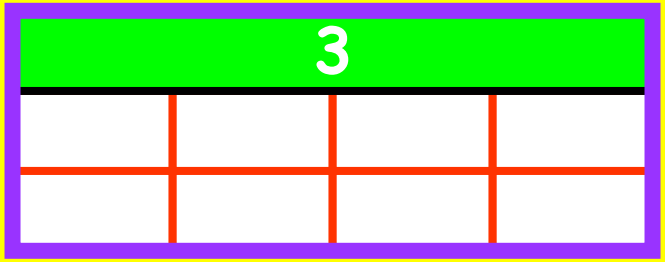












Answer

Finding all possibilities:

How many oblongs (rectangles) are there altogether in this drawing?

The rectangles may be counted on the grid

E.g. there are 4 oblongs 2 sections wide and 3 sections long

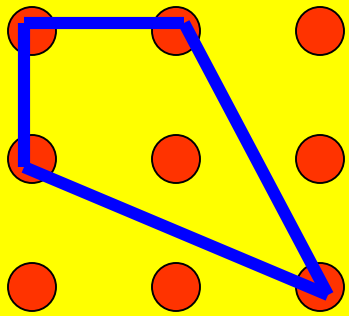
	1	2	3	4
1	12	9	6	3
2	8	6	4	2
3	4	3	2	1

60

Finding all possibilities:

Draw as many different quadrilaterals as you can on a 3 x 3 dot grid.

One has been done for you.



Use a fresh grid for each new quadrilateral.

Repeats of similar quadrilaterals in a different orientation do not count.

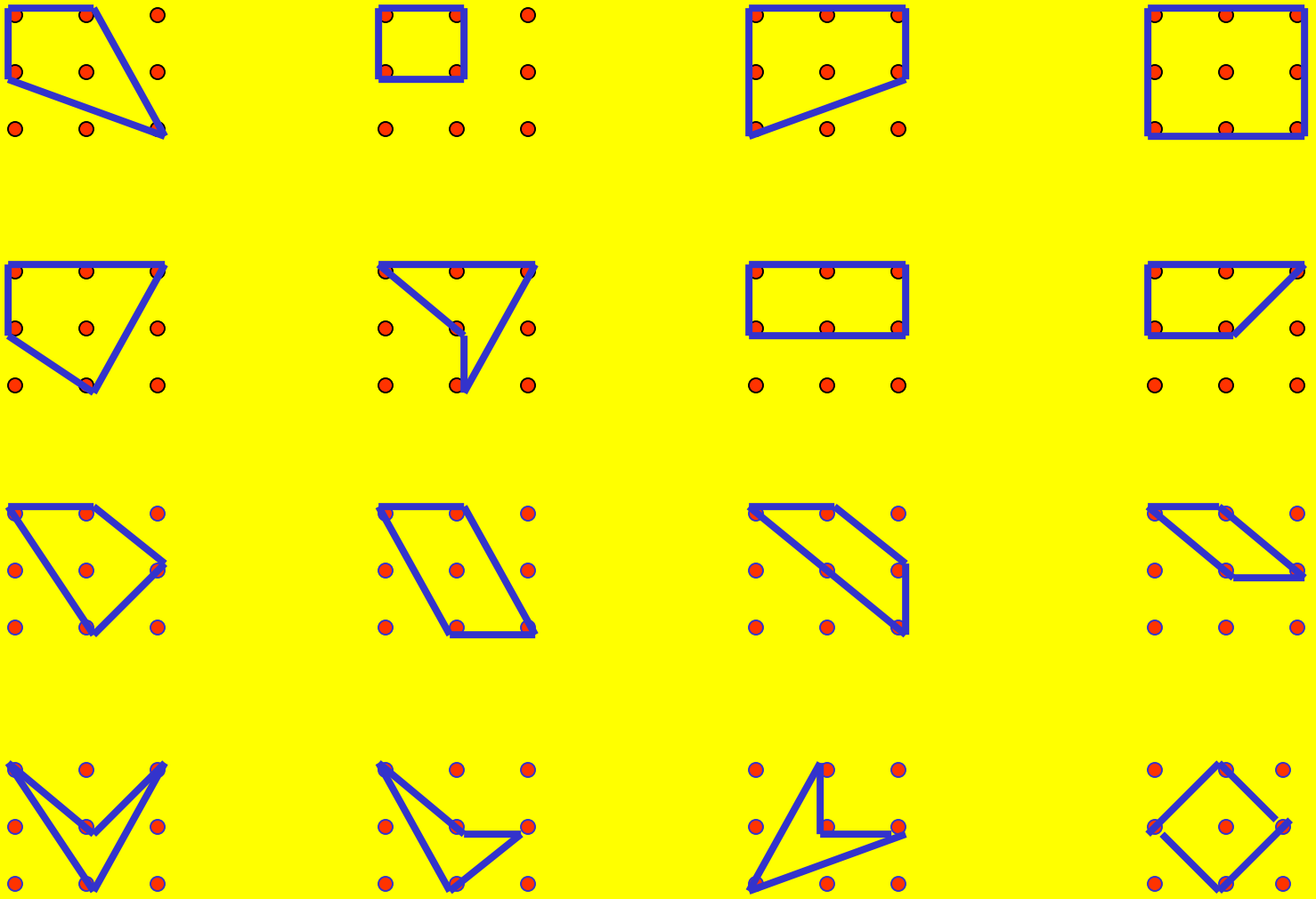
There are 16 possibilities. Can you find them all?

Answer

Finding all possibilities:

Answer

16 Quadrilaterals



Adding to make twenty:

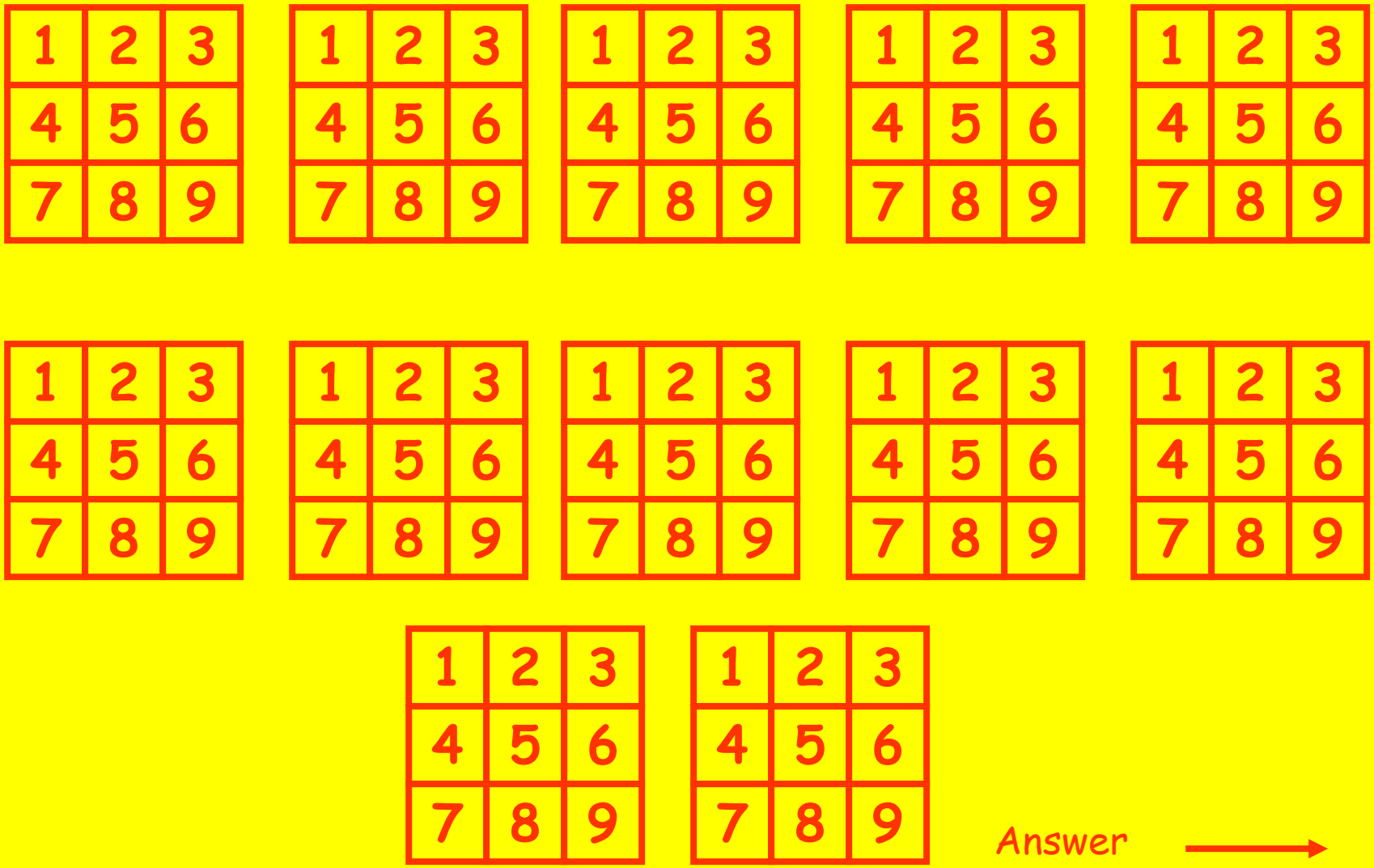
1	2	3
4	5	6
7	8	9

Add any four digits to make the total 20

There are 12 possible solutions - can you find the other 11?

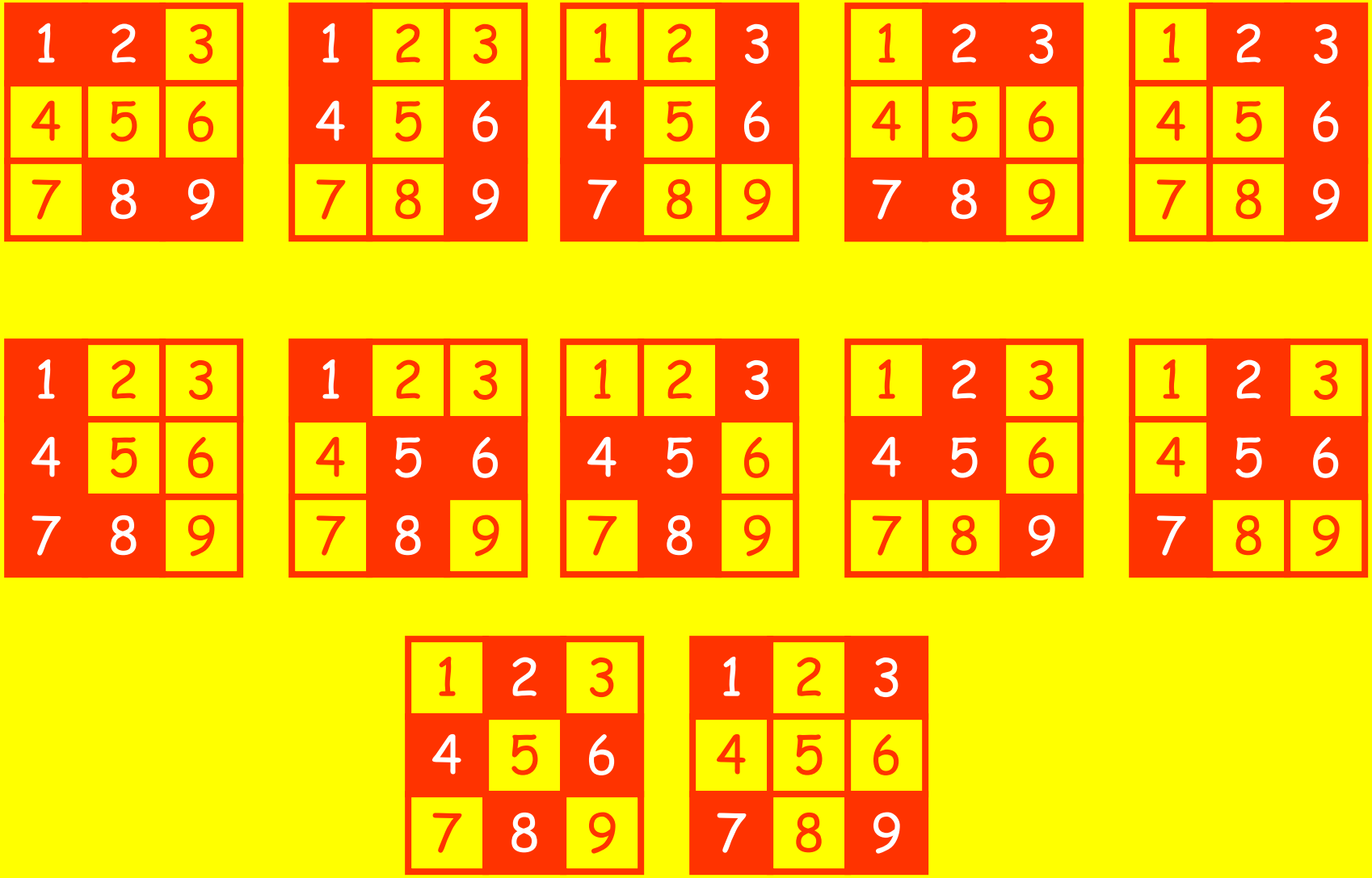
Answer

Making twenty:



Answer

Adding to make twenty - ANSWERS:



Finding cubes of numbers

To find the cube of a number multiply the number by itself and multiply your answer again by the number, e.g.

3 x 3 x 3 becomes

3 x 3 = 9

9 x 3 = 27

27 is a cube number without a decimal.

3 x 3 x 3 is sometimes written as;

3^3 or 3 to the power 3.

Practice:

Find the cubes of these numbers:

2	2 x 2 x 2	=	8
5	5 x 5 x 5	=	125
9	9 x 9 x 9	=	729
10	10 x 10 x 10	=	1000

Answer

Now find the cubes of the numbers 10 to 21

10	10 x 10 x 10 = 1000
11	11 x 11 x 11 = 1331
12	12 x 12 x 12 = 1728
13	13 x 13 x 13 = 2197
14	14 x 14 x 14 = 2744
15	15 x 15 x 15 = 3375
16	16 x 16 x 16 = 4096
17	17 x 17 x 17 = 4913
18	18 x 18 x 18 = 5832
19	19 x 19 x 19 = 6859
20	20 x 20 x 20 = 8000
21	21 x 21 x 21 = 9261

Answer

Now use the cubes of the numbers 10 to 21

1000 1331 1728 2197 2744 3375
4096 4913 5832 6859 8000 9261

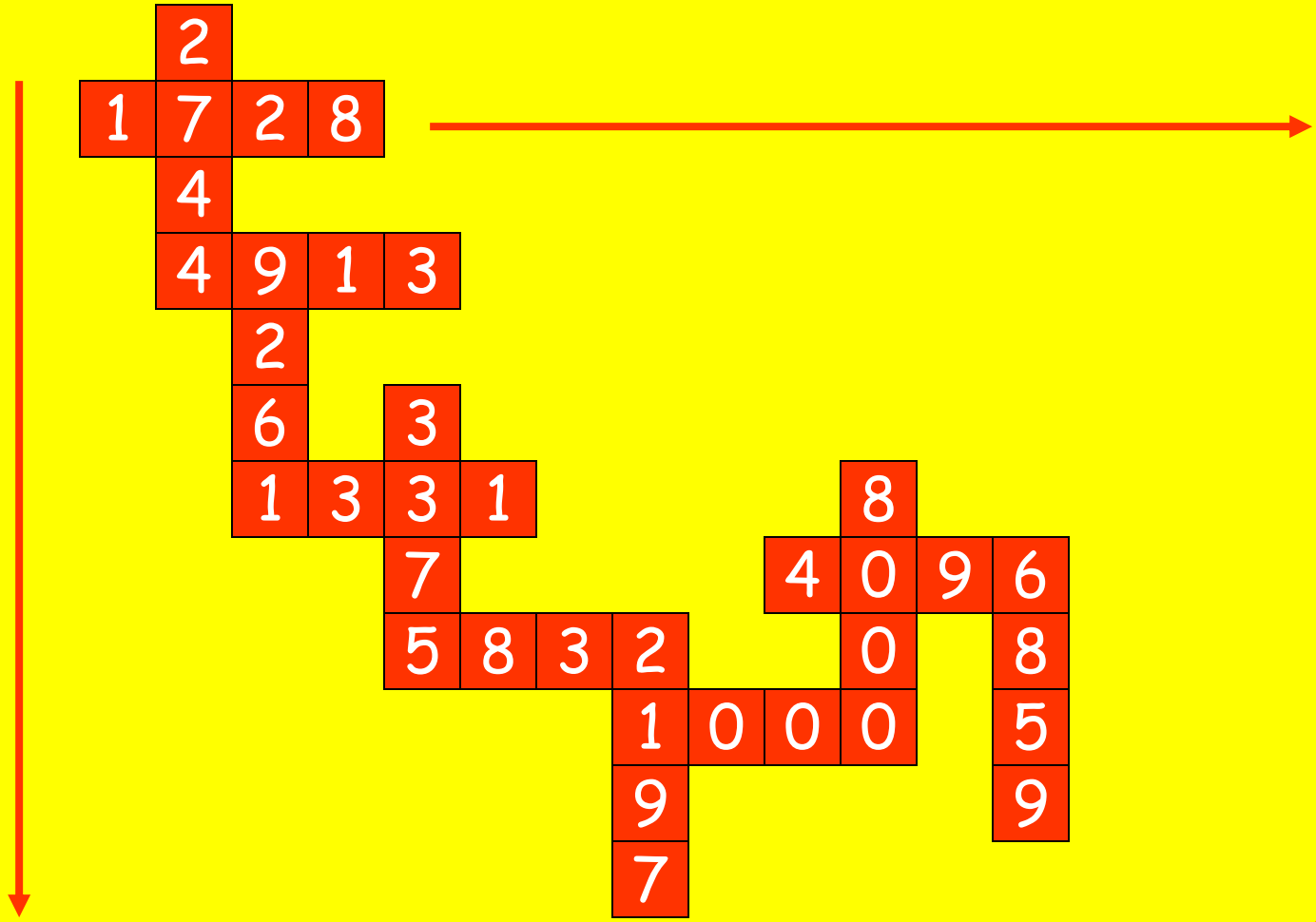
These cube numbers are the only ones with four digits

Arrange the numbers on the grid in cross number fashion.

Next

1000 1331 1728 2197 2744 3375

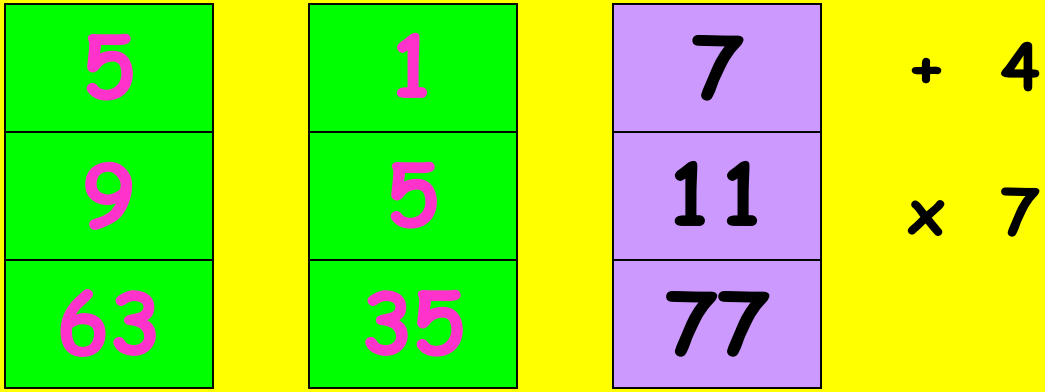
4096 4913 5832 6859 8000 9261



Answer

Find the link:

The set of numbers below are linked by the same mathematical process.



Answer: Add 4 to the top box and multiply your answer by 7.

Try these →

Find the process … mild

A

2	3	5
4	5	7
16	20	28

Add 2 and multiply by 4

B

10	8	13
12	10	15
6	4	9

Add 2 and subtract 6

C

3	5	8
9	15	24
19	25	34

Multiply by 3 and add 10

D

21	7	35
3	1	5
8	6	10

Divide by 7 and add 5

Answer

Find the process … moderate

A

40	76	22
27	63	9
3	7	1

Subtract 13 and divide by 9

B

4	7	8
16	49	64
50	83	98

Square the number and + 34

C

100	60	10
20	12	2
10	6	1

Divide by 5 and halve the answer

D

55	99	121
5	9	11
50	54	56

Divide by 11 and add 45

Answer

Find the process … more taxing

A

36	81	16
6	9	4
-1	2	-3

Find square root & subtract 7

B

-10	0	-3
2	12	9
10	60	45

Add 12 & multiply by 5

C

4	10	7
16	100	49
64	1000	343

Finding cube numbers

D

0.03	0.08	0.24
30	80	240
7.5	20	60

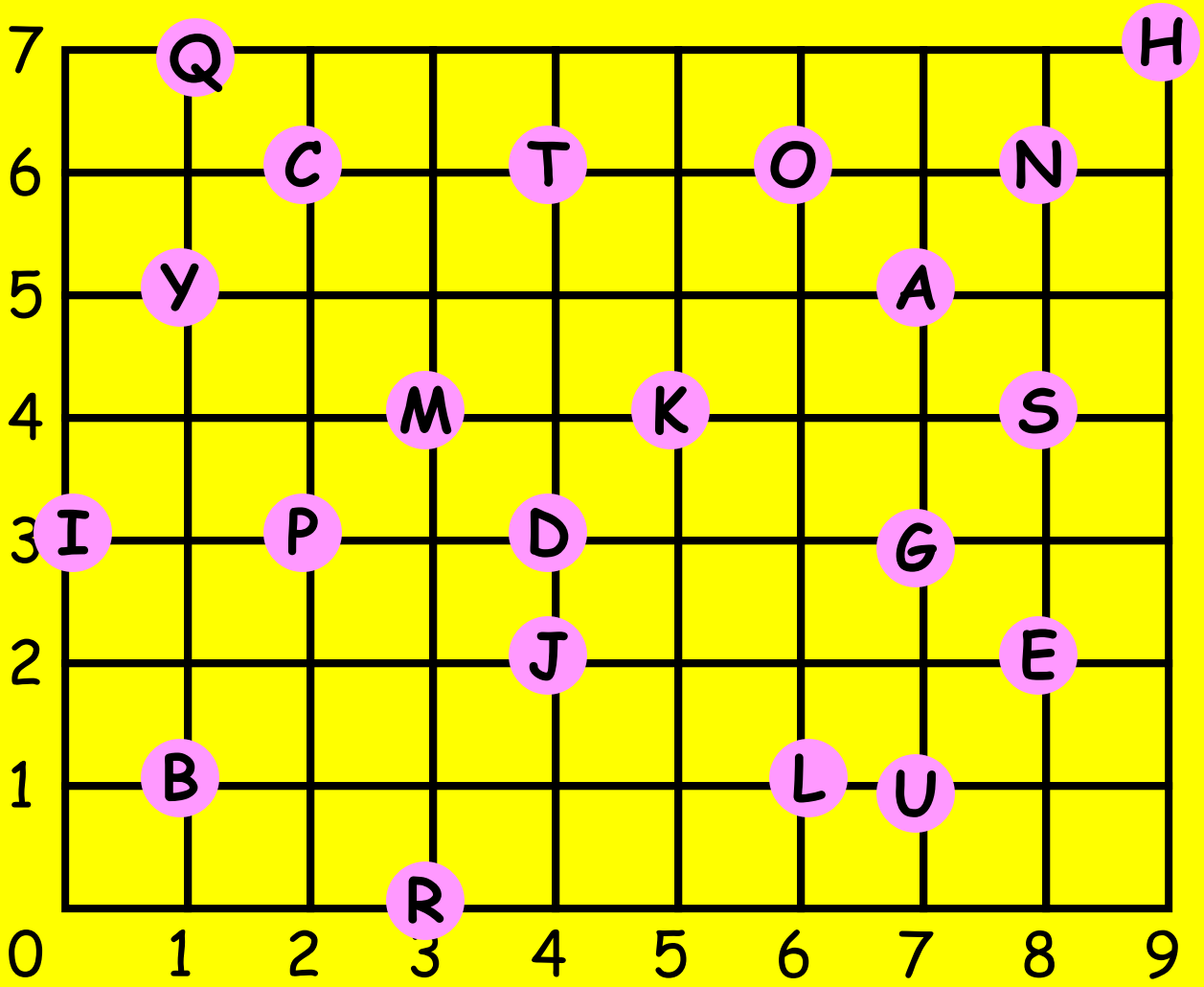
Multiply by 1000 and find a $\frac{1}{4}$

Answer

Co-ordinate words

The grid shows letters at certain co-ordinates.

Look at the groups of co-ordinates and identify the hidden words.



Answer

[7,5] [3,0] [8,2] [7,5]

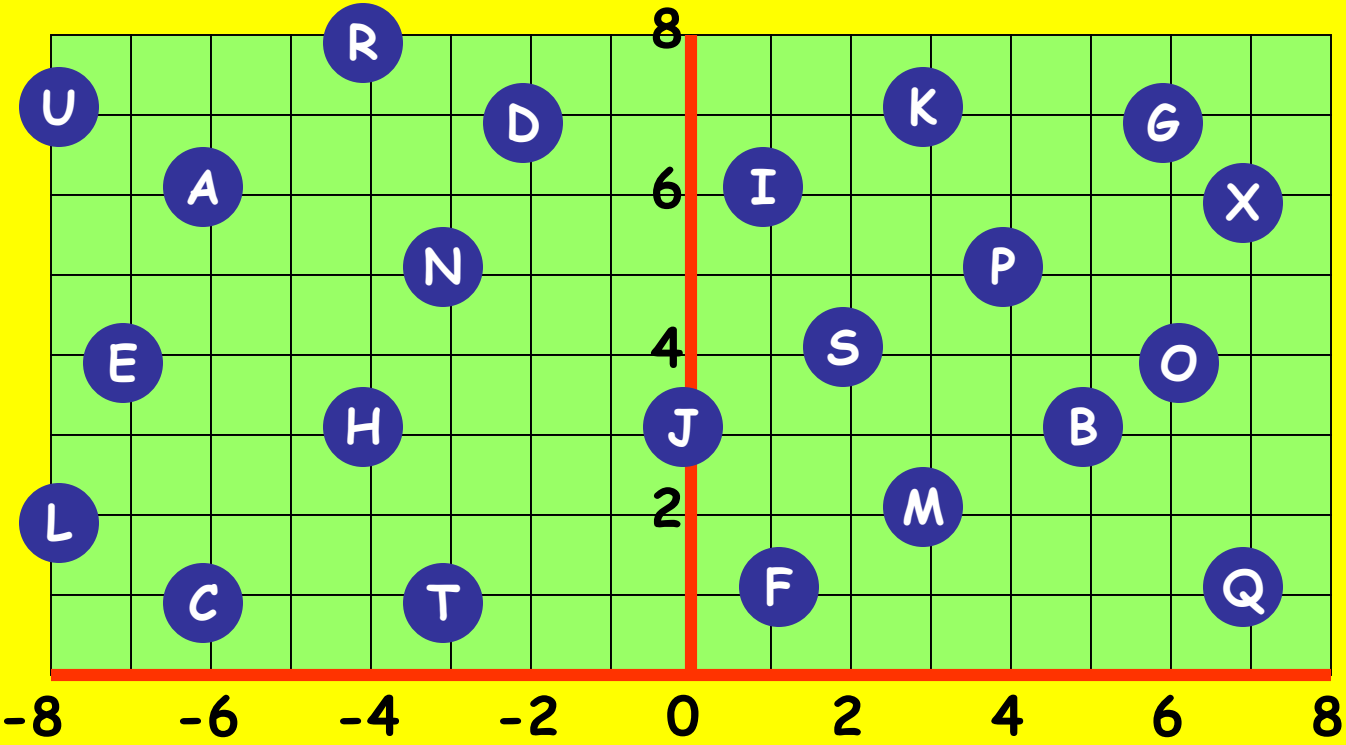
[8,4] [1,7] [7,1] [7,5] [3,0] [8,2]

[2,3] [6,6] [6,1] [1,5] [7,3] [6,6] [8,6]

AREA

SQUARE

POLYGON

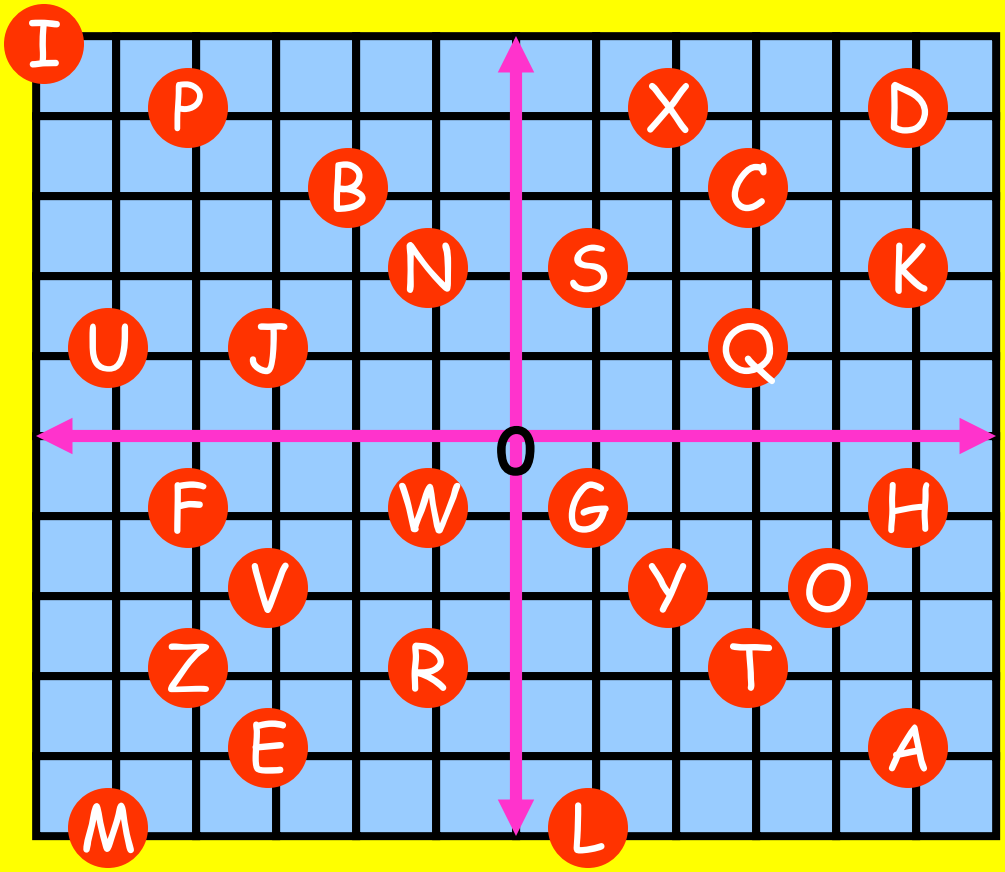


Answer

[-4,8] [-4,3] [6,4] [3,2] [5,3] [-8,7] [2,4]
[-6,6] [-3,5] [6,7] [-8,2] [-7,4]
[6,4] [5,3] [-8,2] [6,4] [-3,5] [6,7]
[-4,3] [-7,4] [7,6] [-6,6] [6,7] [6,4] [-3,5]

RHOMBUS
ANGLE
OBLONG
HEXAGON

Give co-ordinates for MODE [3,2] [6,4] [-2,7] [-7,4]



GRID LINES ARE 1 UNIT APART

[-3,-4] [5,4] [1,-1] [-3,-4]

EDGE

[5,-4] [2,4] [-6,5] [1,2]

AXIS

[-4,-1] [5,-4] [3,3] [3,-3] [4,-2] [-1,-3]
[-3,-4] [3,1] [-5,1] [5,-4] [1,-5]
[-5,-5] [-6,5] [-1,2] [-5,1] [1,2]

FACTOR
EQUAL
MINUS

Give co-ordinates for TRIANGLE

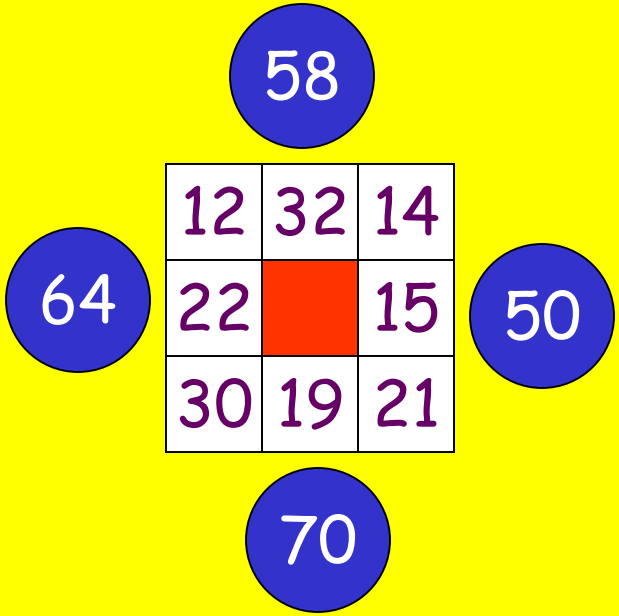
[3,-3] [-1,-3] [-6,5] [5,-4] [-1,2] [1,-1] [1,-5] [-3,-4] Answer

Arranging numbers around squares ...

Here are nine numbers.

30	19	47	14	32	22	15	21	12

Arrange eight of them in the blank squares so that the sides make the total shown in the circle. Each number may be used once only. E.G.

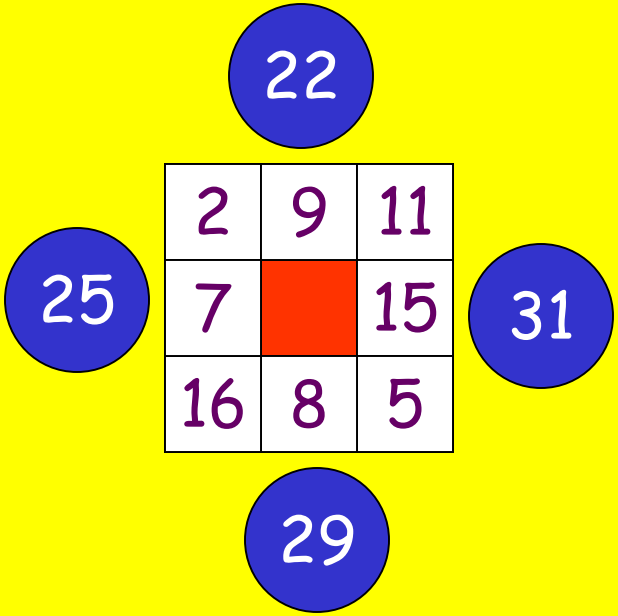


Arranging numbers around squares ...

Here are nine numbers.

8	9	7	3	5	2	15	16	11

Arrange eight of them in the blank squares so that the sides make the total shown in the circle.



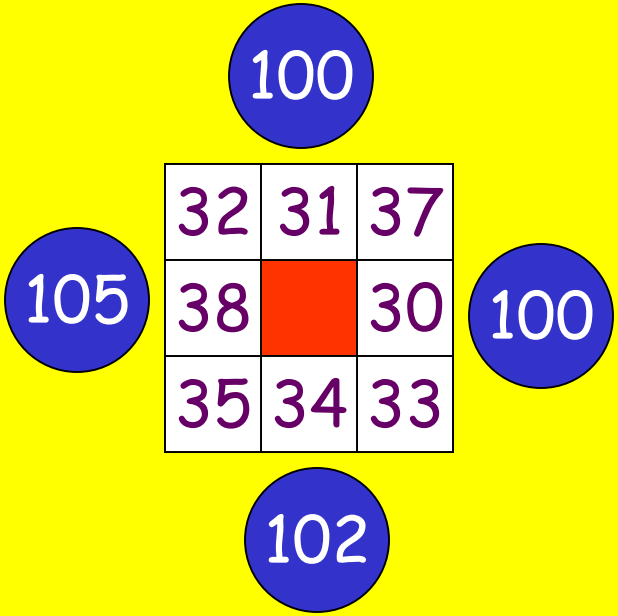
Answer

Arranging numbers around squares ...

Here are nine numbers.

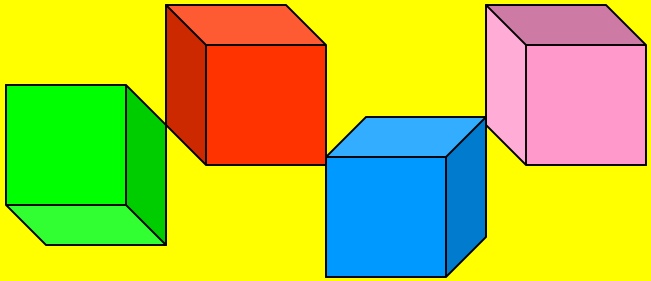
30	33	37	34	32	36	35	31	38

Arrange eight of them in the blank squares so that the sides make the total shown in the circle. E.G.



Nets of a cube ...

A cube may be unfolded in many different ways to produce a net.

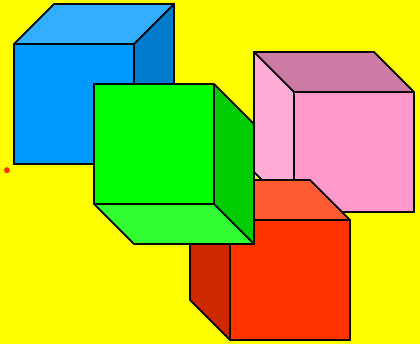


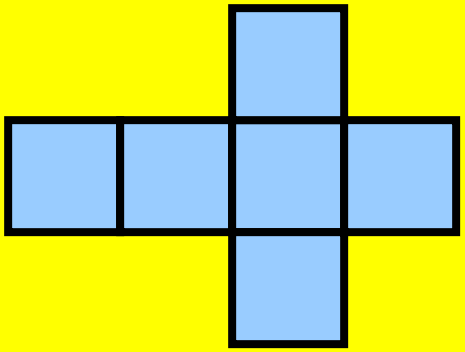
Each net will be made up of six squares.

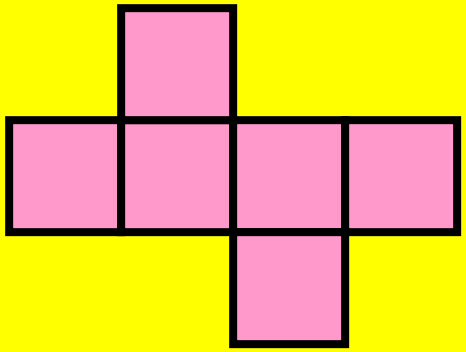
There are 11 different ways to produce a net of a cube.
Can you find them all?

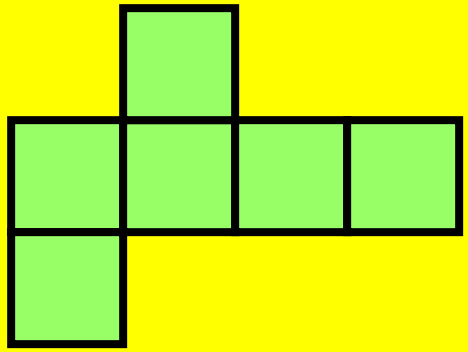
Nets of a cube ...

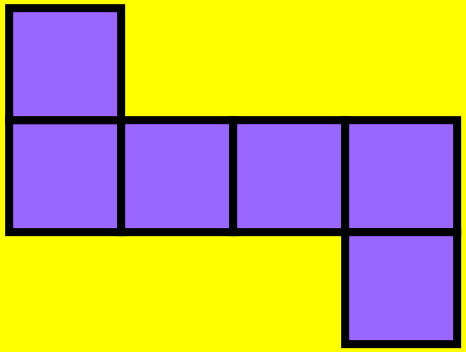
There are 11 different ways to produce a net of a cube.
Can you find them all?

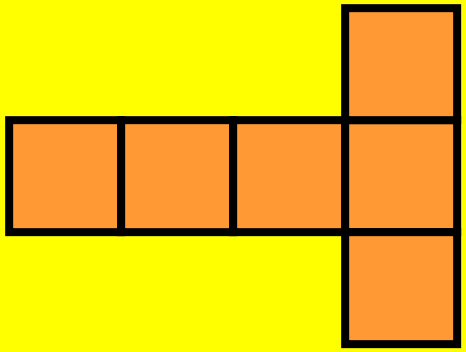


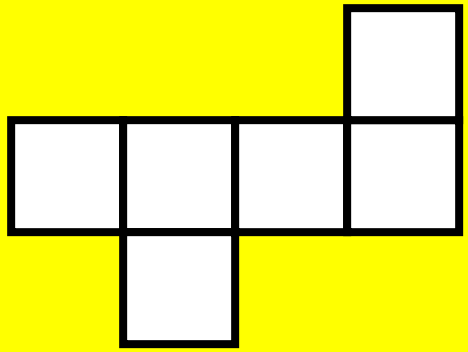








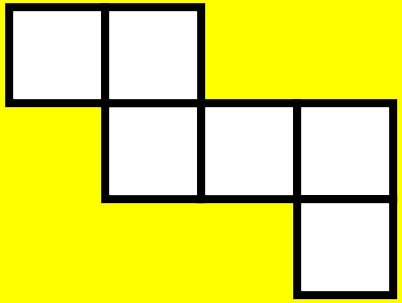


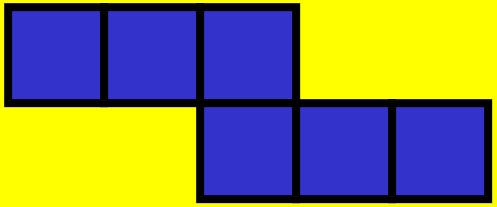


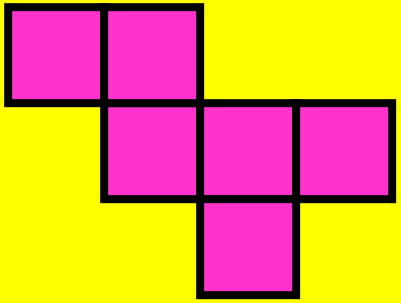
Answer

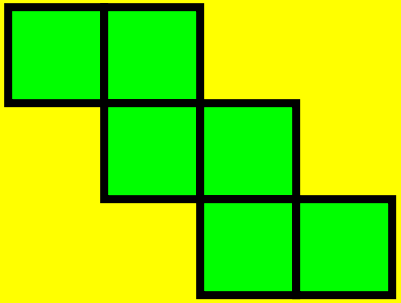
More

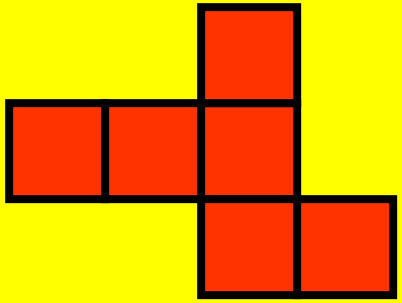
Nets of a cube the final five ...











Answer

Rugby union scores …

In a rugby union match scores can be made by the following methods:

A try and a conversion	7 points
A try not converted	5 points
A penalty goal	3 points
A drop goal	3 points

Rugby union scores …

In a rugby union match scores can be made by the following methods:

A try and a conversion	7 points
A try not converted	5 points
A penalty goal	3 points
A drop goal	3 points

In a game Harlequins beat Leicester by 21 points to 18.

The points were scored in this way:

Harlequins: 1 converted try, 1 try not converted, 2 penalties and a drop goal.

Leicester: 3 tries not converted and a drop goal.

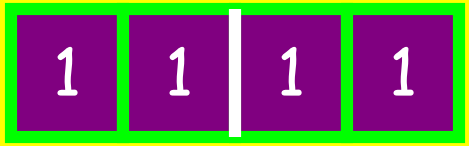
Are there any other ways the points might have been scored?

DIGITAL CLOCK

The display shows a time on a digital clock.

It uses different digits

The time below displays the same digit



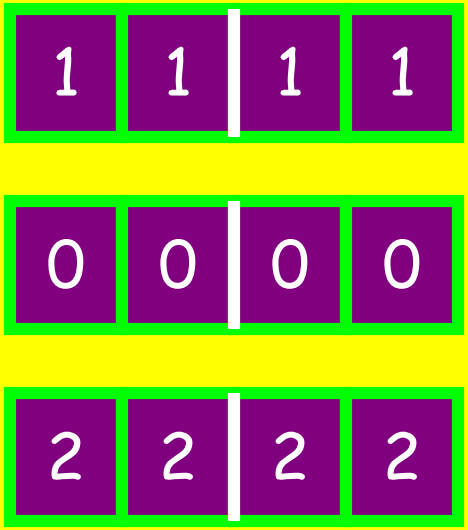
There are two other occasions when the digits will be the same on a digital clock.

Can you find them?

Answer

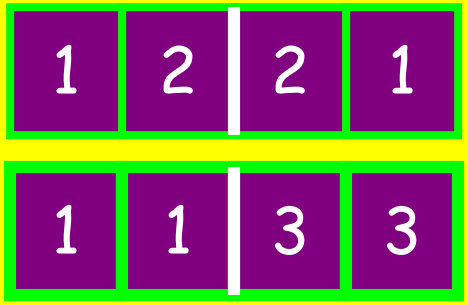
DIGITAL CLOCK

The occasions when digital clock displays the same digit are.



DIGITAL CLOCK

The displays show time on a digital clock.



The display shows 2 different digits, each used twice.

Can you find all the occasions during the day when the clock will display 2 different digits twice each?

There are forty-nine altogether

Look for a systematic way of working

Answer

Two digits appearing twice on a digital clock.

0	0	1	1
0	0	2	2
0	0	3	3
0	0	4	4
0	0	5	5
0	1	0	1
0	1	1	0
0	2	0	2
0	2	2	0
0	3	0	3
0	3	3	0
0	4	0	4

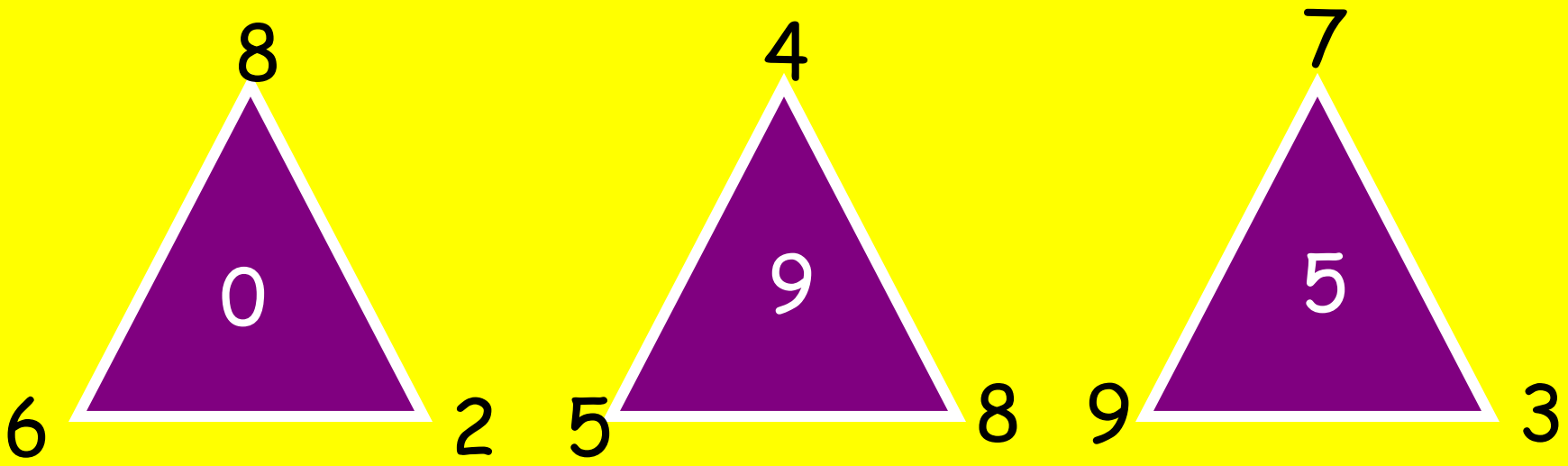
0	4	4	0
0	5	0	5
0	5	5	0
0	6	0	6
0	7	0	7
0	8	0	8
0	9	0	9
1	0	0	1
1	0	1	0
1	1	0	0
1	1	2	2
1	1	3	3

1	1	4	4
1	1	5	5
1	2	1	2
1	2	2	1
1	3	1	3
1	3	3	1
1	4	1	4
1	4	4	1
1	5	1	5
1	5	5	1
1	6	1	6
1	7	1	7

1	8	1	8
1	9	1	9
2	0	0	2
2	0	2	0
2	1	1	2
2	1	2	1
2	2	0	0
2	2	1	1
2	2	3	3
2	2	4	4
2	2	5	5
2	3	2	3
2	3	3	2

Triangle test

Each of the triangles below use the same rule to produce the answer in the middle.

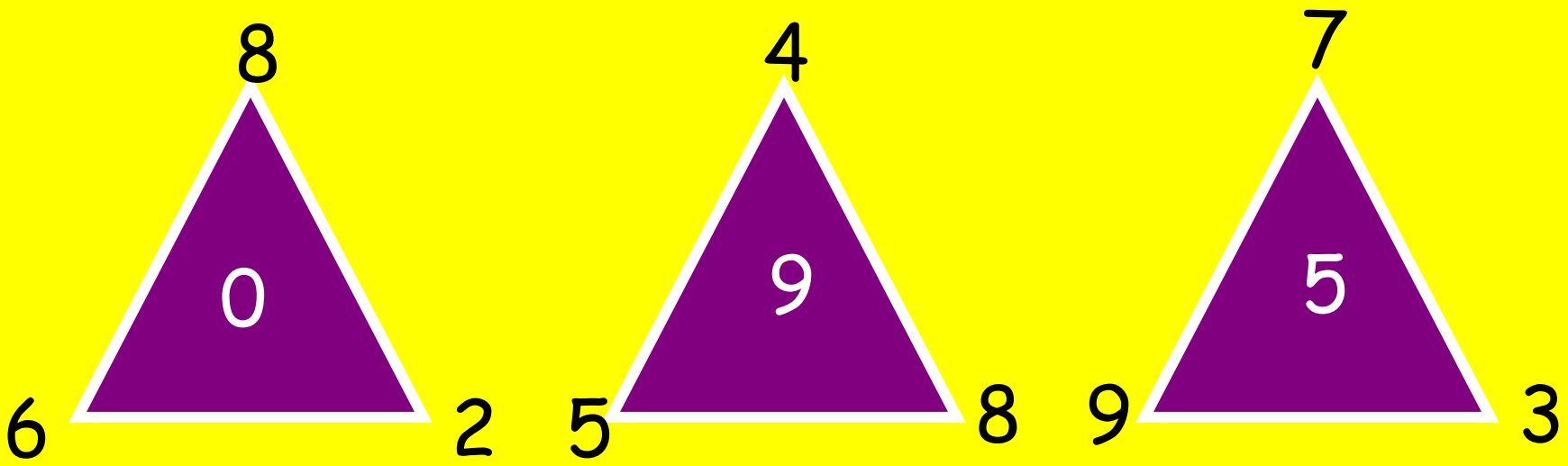


Can you find the rule?

Answer

Triangle test

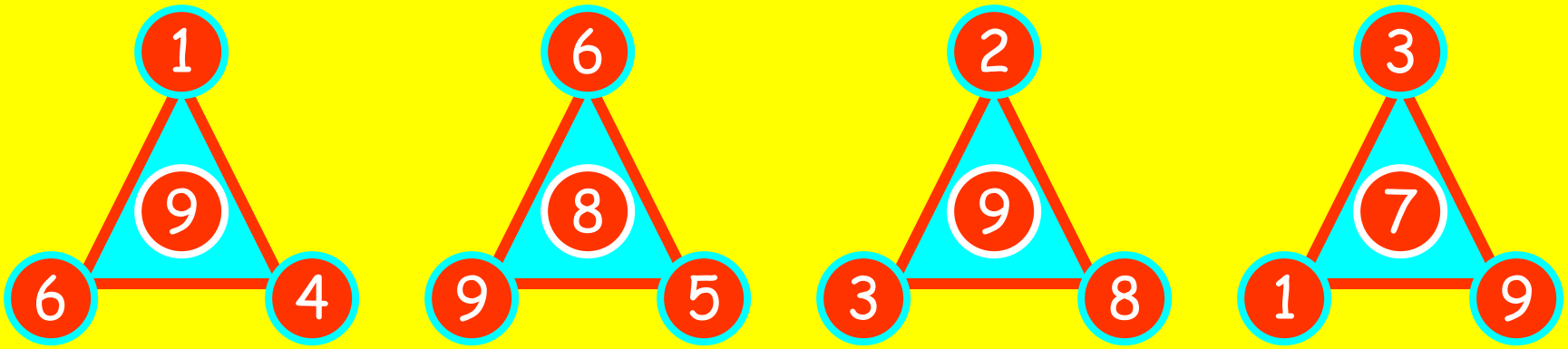
Each of the triangles below use the same rule to produce the answer in the middle.



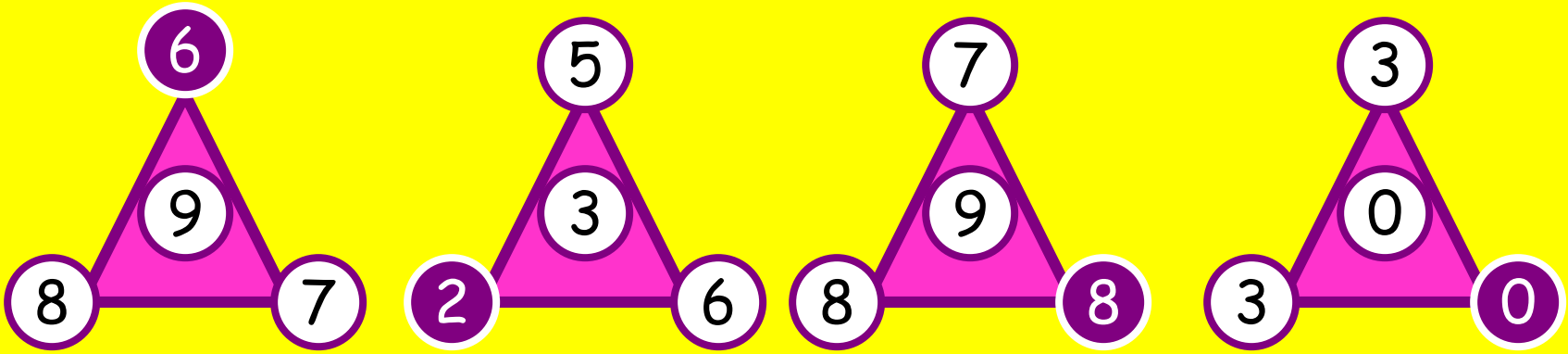
Add the two bottom numbers and subtract the top one

Try these using the same rule

Using the rule on the previous slide which numbers fit in these triangles?

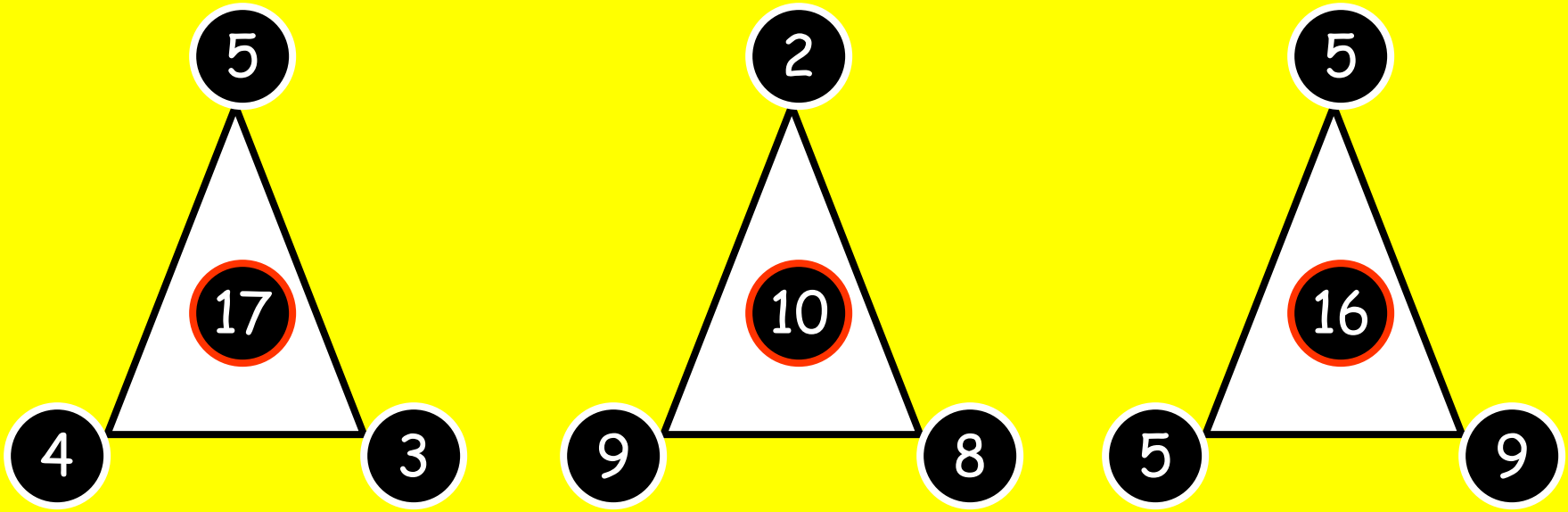


Using the same rule can you find which numbers fit at the missing apex of each triangle?



Triangle test

Can you find a rule that links the points of these triangles with the outcome in the middle?

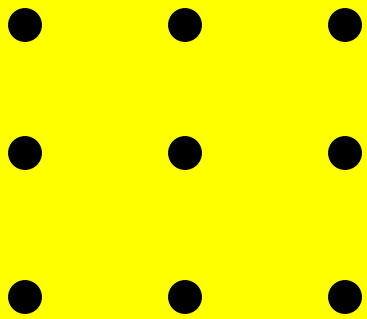


Multiply the top number by the one on the left and subtract the number on the right. This will give you the number in the centre.

TASK: Create some triangle sequences for yourself and ask your friends to find the rule you have used.

Nine dots

Nine dots are arranged on a sheet of paper as shown below.



TASK: Start with your pencil on one of the dots.

Do not lift the pencil from the paper.

Draw four straight lines that will connect all the dots

Click for help 1 Start with a dot in a corner

Click for help 2 The line does not have to finish on a dot

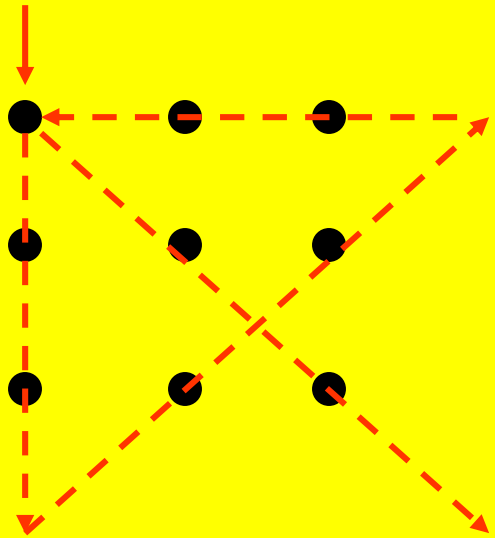
Answer

Nine dots

Nine dots are arranged on a sheet of paper as shown below.

Start here

Click for answer



TASK: Start with your pencil on one of the dots.

Do not lift the pencil from the paper.

Draw four straight lines that will connect all the dots

Fifteen coins make a pound.

How many different combinations of 15 coins can you find that will make exactly £1?

Coins may be used more than once.

Click when you need help 

TRY: starting with two fifty pence pieces and cascading [changing them] coins until you reach £1 with 15 coins.

THINK: Once you have found one combination change coins to find others.

Answer 

Fifteen coins make a pound.

A couple of possibilities:

1	x	50p	-	50p
9	x	5p	-	45p
5	x	1p	-	5p
15	coins totalling	£1.00		

1	x	50p	-	50p
1	x	20p	-	20p
1	x	10p	-	10p
2	x	5p	-	10p
10	x	1p	-	10p
15	coins totalling	£1.00		

Have you found any others?

Marble exchange

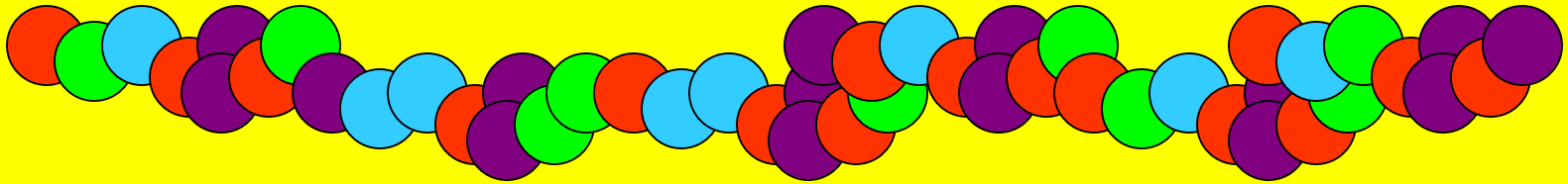
The exchange rate for marbles is as follows:

3 GREEN marbles has the same value as 5 BLUE marbles

2 RED marbles have the same value as 1 PURPLE marble

4 RED marbles have the same value as 3 GREEN marbles

How many BLUE marbles can you get for 8 PURPLE marbles?



TRY: using marbles to represent exchanges.

Answer

Marble exchange

The exchange rate for marbles is as follows:

3 GREEN marbles has the same value as 5 BLUE marbles

2 RED marbles have the same value as 1 PURPLE marble

4 RED marbles have the same value as 3 GREEN marbles

How many BLUE marbles can you get for 8 PURPLE marbles?

Start answer sequence

1 purple = 2 red.

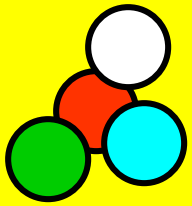
8 purple = 16 red

4 red = 3 green so 16 red = 12 green.

3 green = 5 blue so 12 green = 20 blue

You can get 20 blue marbles for 8 purple ones

Counters.

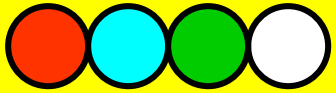


Jack has four different coloured counters.

He arranges them in a row.

How many different ways can he arrange them?

One has been done for you.

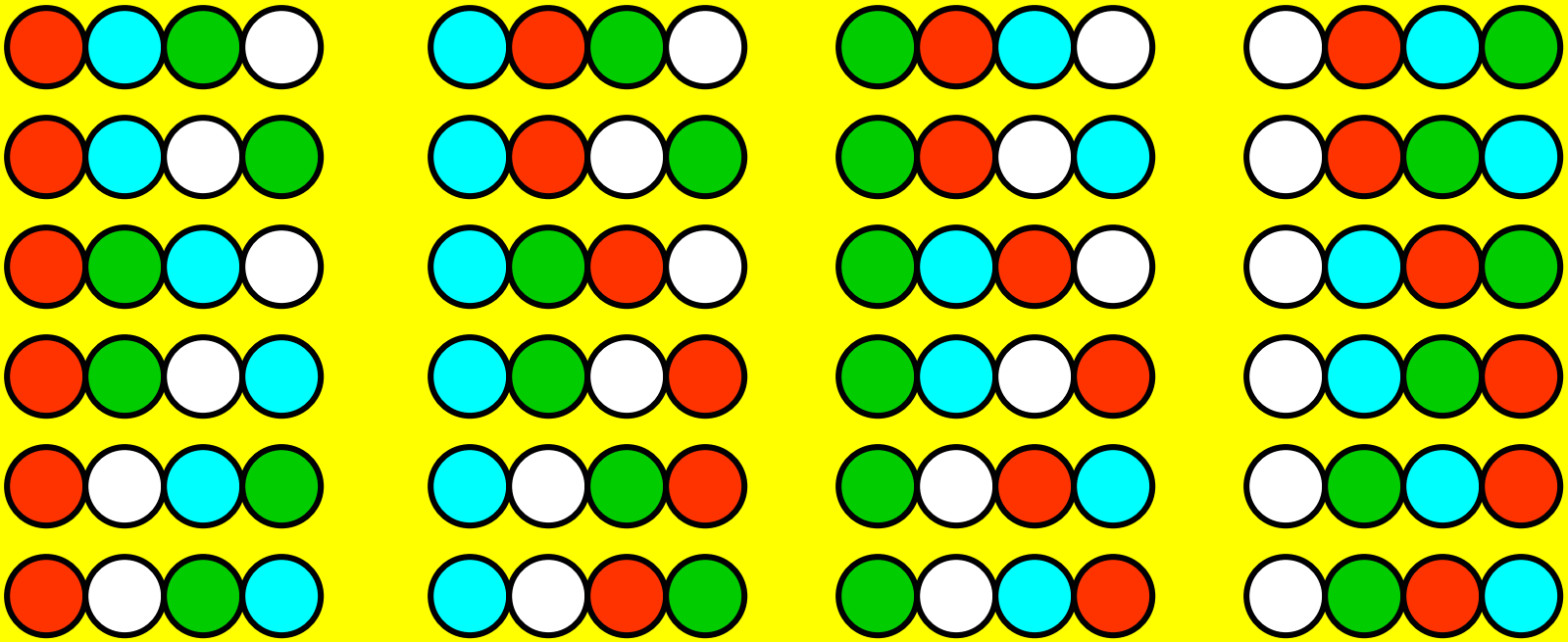


There are 24 possible combinations.

Answer

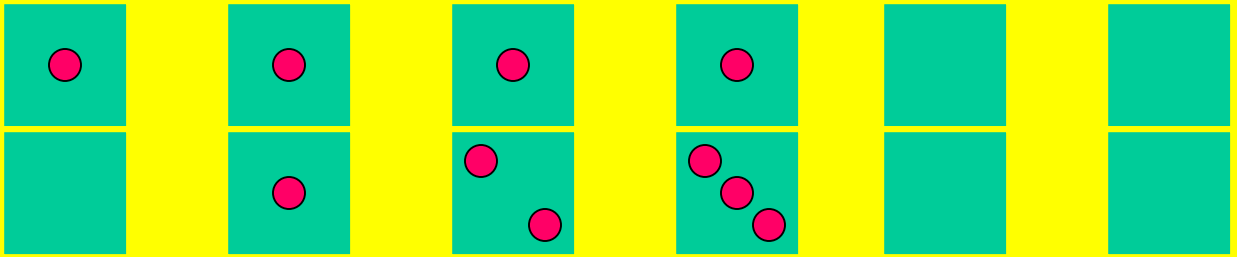
Counters.

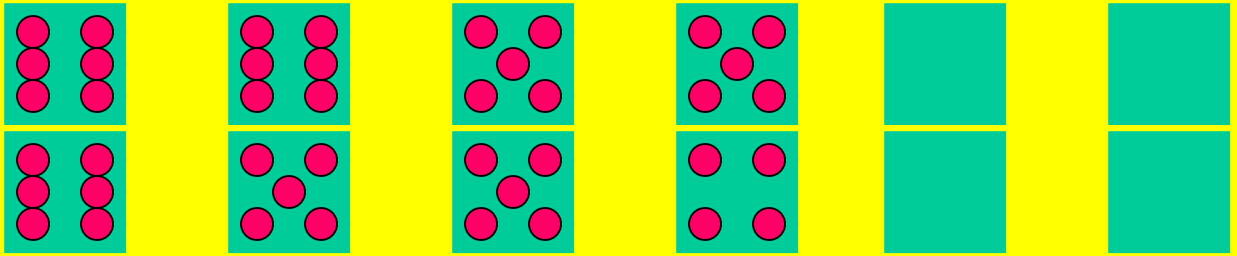
Click to start answer sequence



Domino sequences.

Find the next two dominoes in each of these sequences.





Domino sequences.

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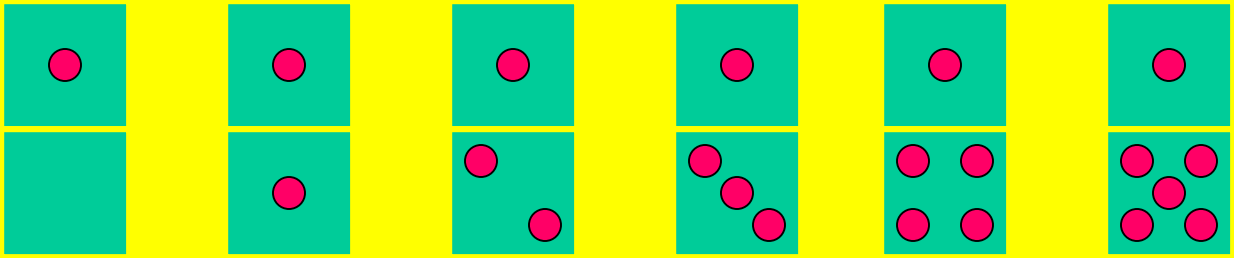
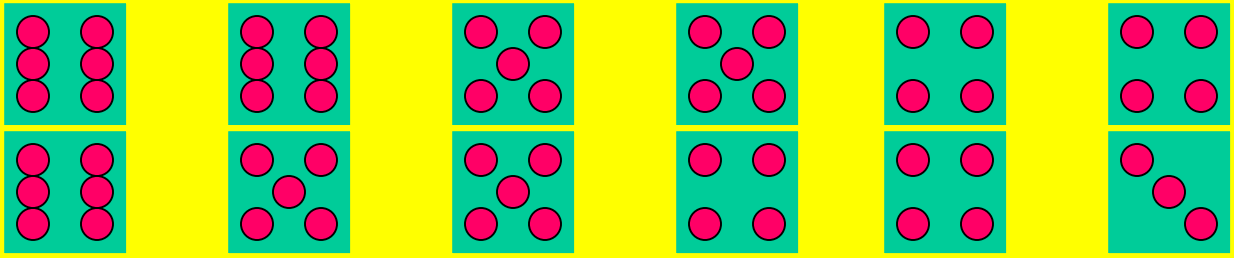
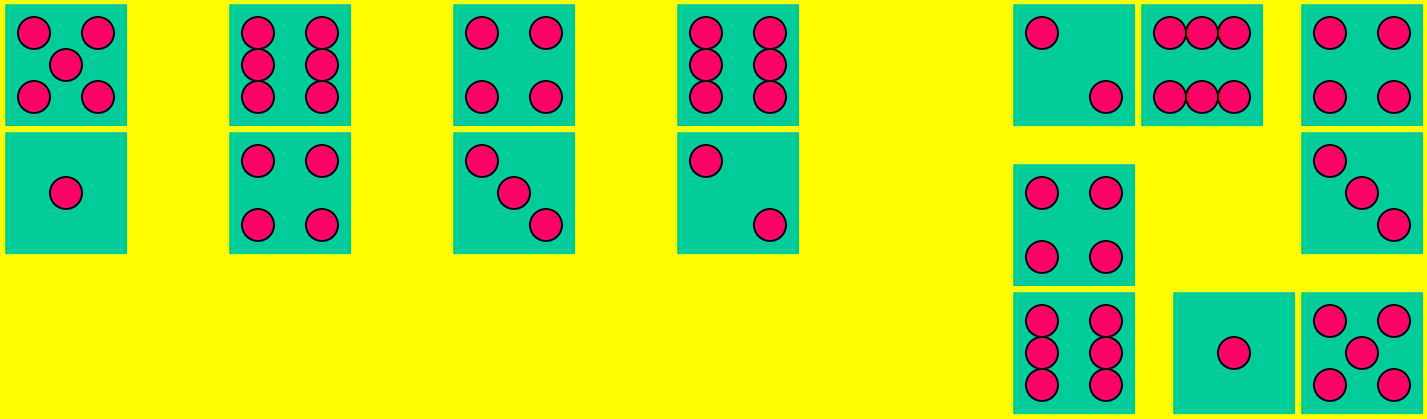


Answer for this sequence



Answer for this sequence

Domino squares.



The four dominoes above are arranged in a square pattern.

Each side of the pattern adds up to 12.

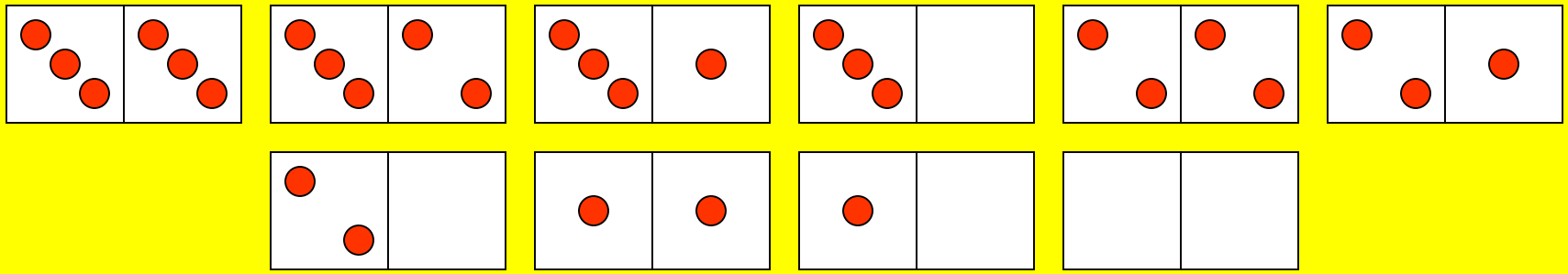
How might the dominoes be arranged?

Are there any other possible solutions?

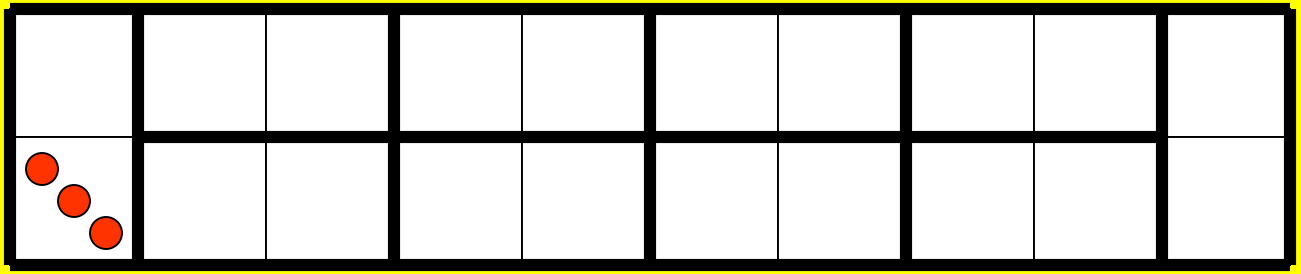
Can you find four other dominoes that can make a number square?

Answer

Dominoes puzzle:



Rearrange these dominoes in the framework below so that the total number of spots in each column adds up to 3 and the total of each row is 15. Draw spots to show how you would do it.



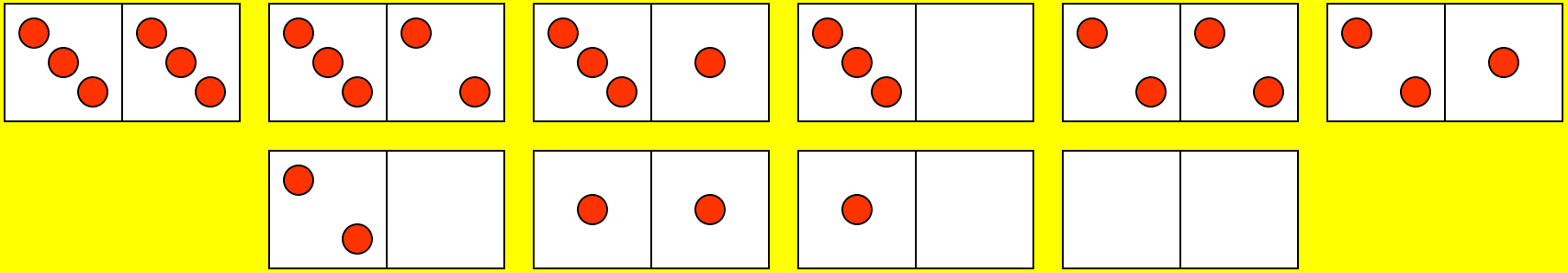
15

15

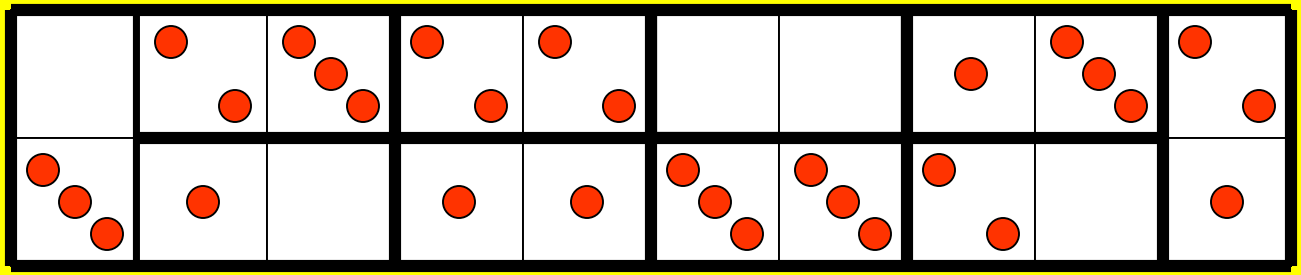
3 3 3 3 3 3 3 3 3 3

Answer

Dominoes puzzle answer:



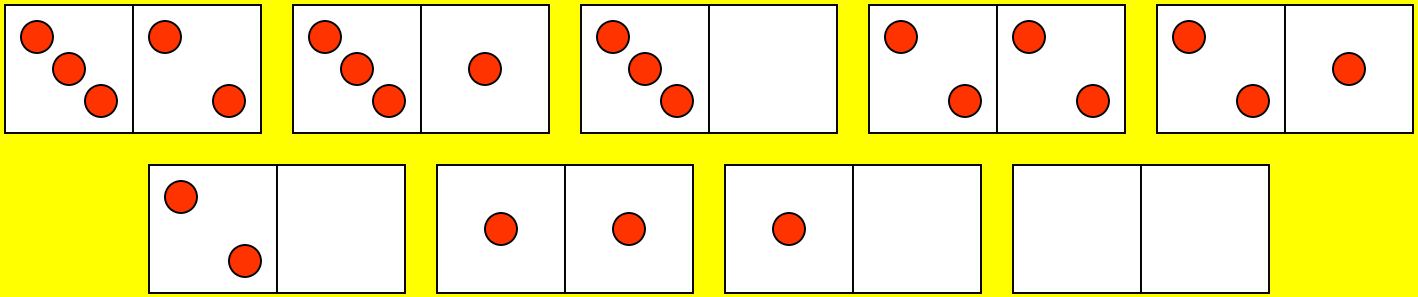
Rearrange these dominoes in the framework below so that the total number of spots in each column adds up to 3 and the total of each row is 15



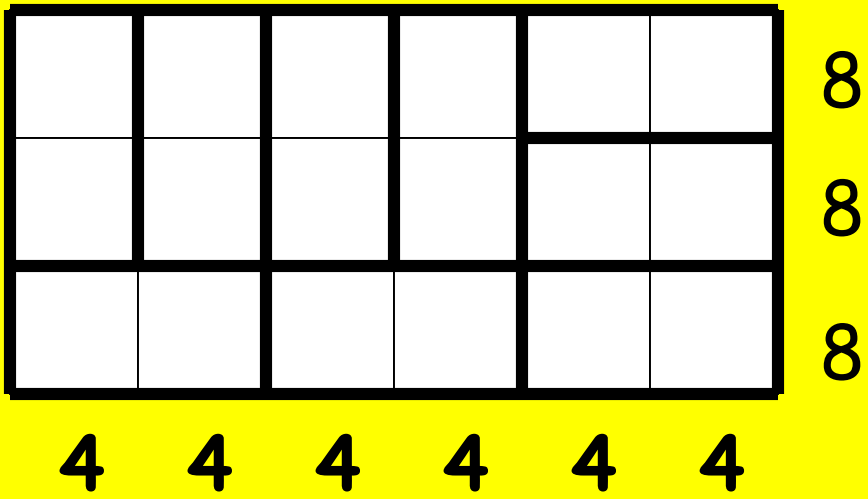
The arrangement of dominoes may vary as long as the totals remain correct

Answer

Dominoes puzzle:

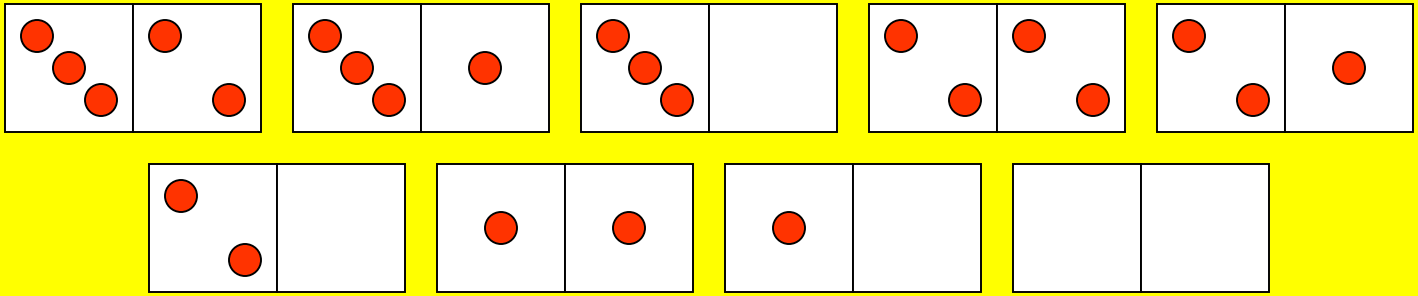


Rearrange these dominoes in the framework below so that the total number of spots in each column adds up to 4 and the total of each row is 8. Draw spots to show how you would do it.

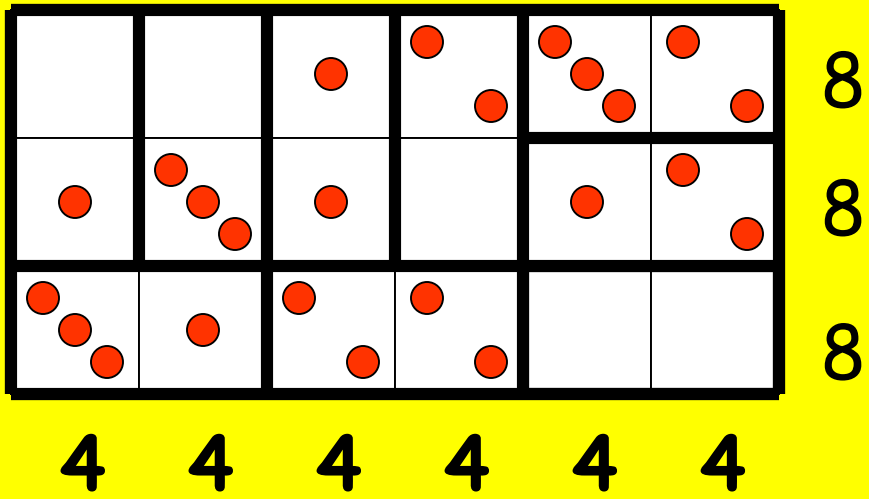


Answer

Dominoes puzzle:



Rearrange these dominoes in the framework below so that the total number of spots in each column adds up to 4 and the total of each row is 8. Draw spots to show how you would do it.



Other arrangements of this framework may be possible

Answer

Patio pathways

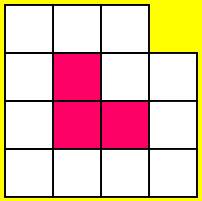
Jodie is making a patio.

She uses red tiles and white tiles.

She first makes an L shape with equal arms from red slabs.

She then puts a grey border around the patio.

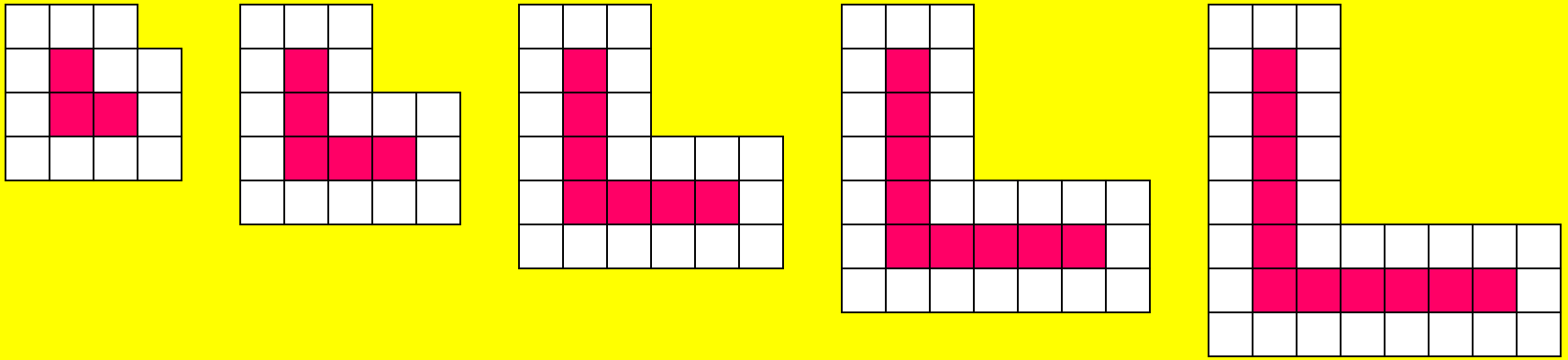
The smallest possibility has been done for you.



Arm length	2
red slabs	3
grey slabs	12
total slabs	15

Draw the next <u>four</u> patios and record your results in the table

Patio pathways

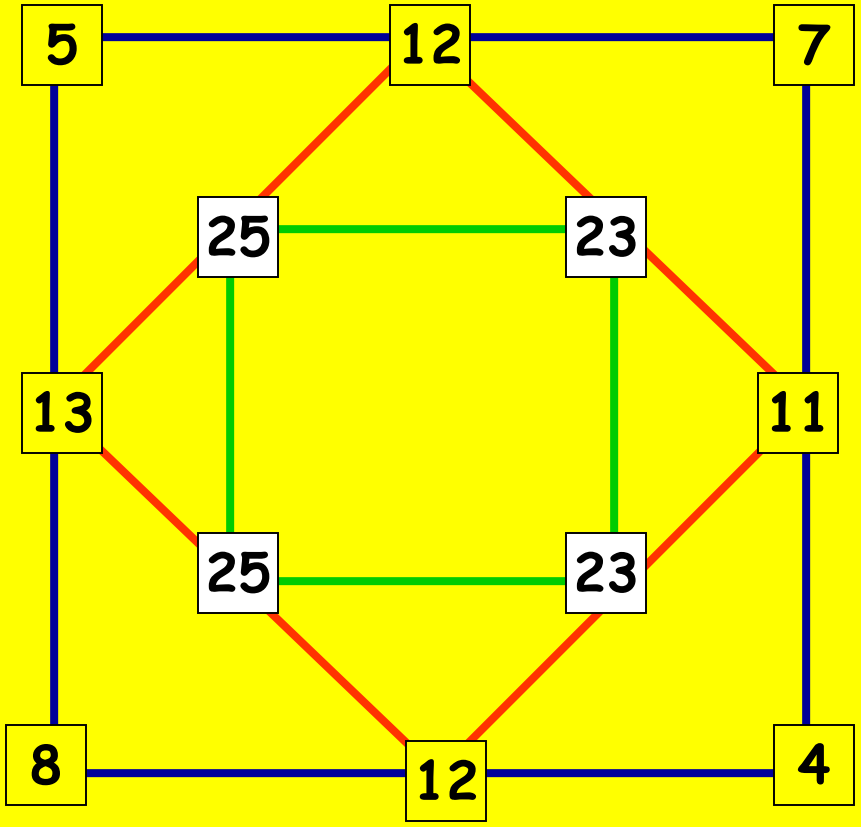


arm length	2	3	4	5	6
red slabs	3	5	7	9	11
grey slabs	12	16	20	24	28
total slabs	15	21	27	33	39

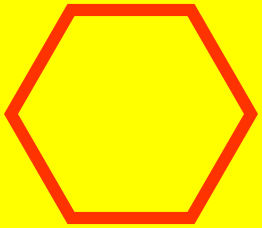
Predict how many grey slabs you will see if the arm length was 9 slabs.

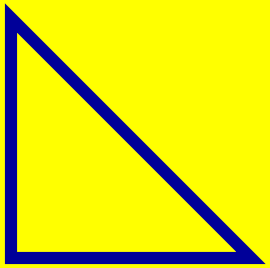
Answer

Number squares



What if we used … ?





What if we used … ?

Subtraction

Multiplication

Division

Playing with consecutive numbers.

The number 9 can be written as the sum of consecutive whole numbers in two ways.

$9 = 2 + 3 + 4$ $\qquad$ $9 = 4 + 5$

Think about the numbers between 1 and 20.

Which ones can be written as a sum of consecutive numbers?

Which ones can't?

Can you see a pattern?

What about numbers larger than 20?

Playing with consecutive numbers.

15 = 7 + 8

15 = 1 + 2 + 3 + 4 + 5

15 = 4 + 5 + 6

What about 1, 2, 4, 8, 16?

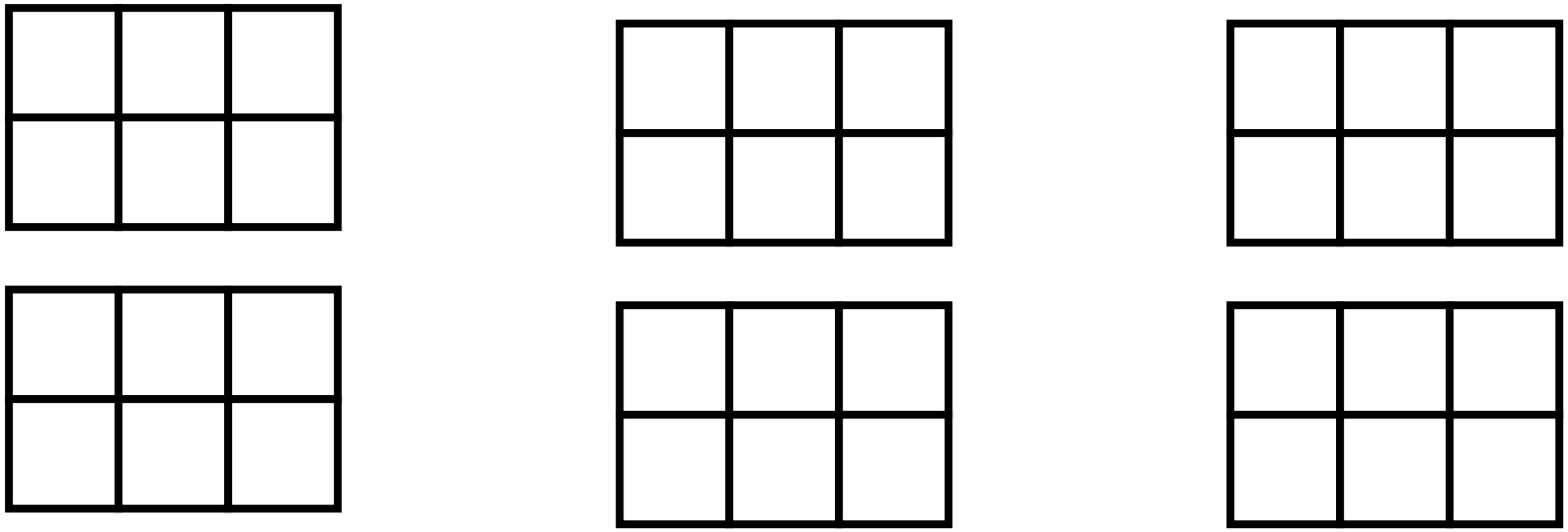
What about 32? 64?

AFTERSATS

summer term mathematics activities for year six

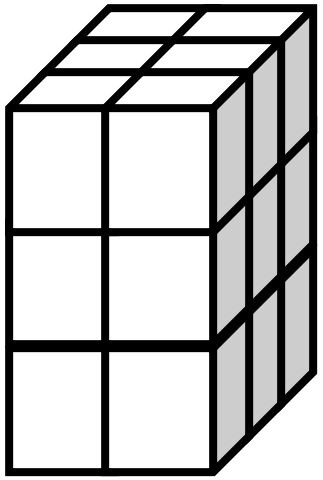
Printable version

Finding all possibilities:



A visualisation problem:

A model is made from cubes as shown.



How many cubes make the model?

A part of how many cubes can you see?

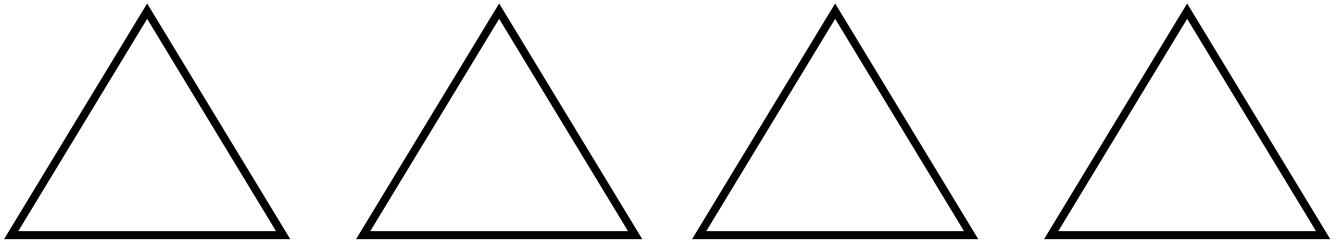
How many cubes can't you see?

If the cubes were arranged into a tower what is the most number of the square faces could you see at one time?

Finding all possibilities:

You have 4 equilateral triangles.

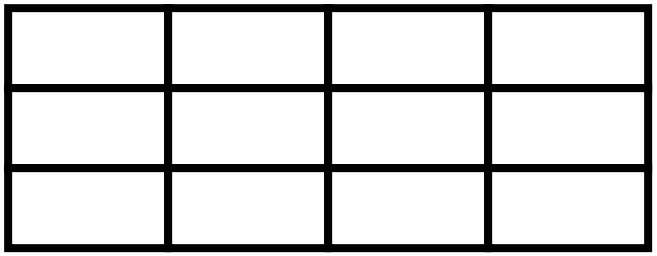
How many different shapes can you make by joining the edges together exactly?



How many of your shapes will fold up to make a tetrahedron?

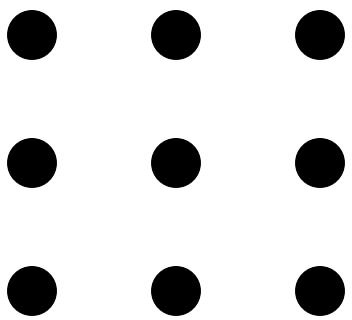
Finding all possibilities:

How many rectangles are there altogether in this drawing?

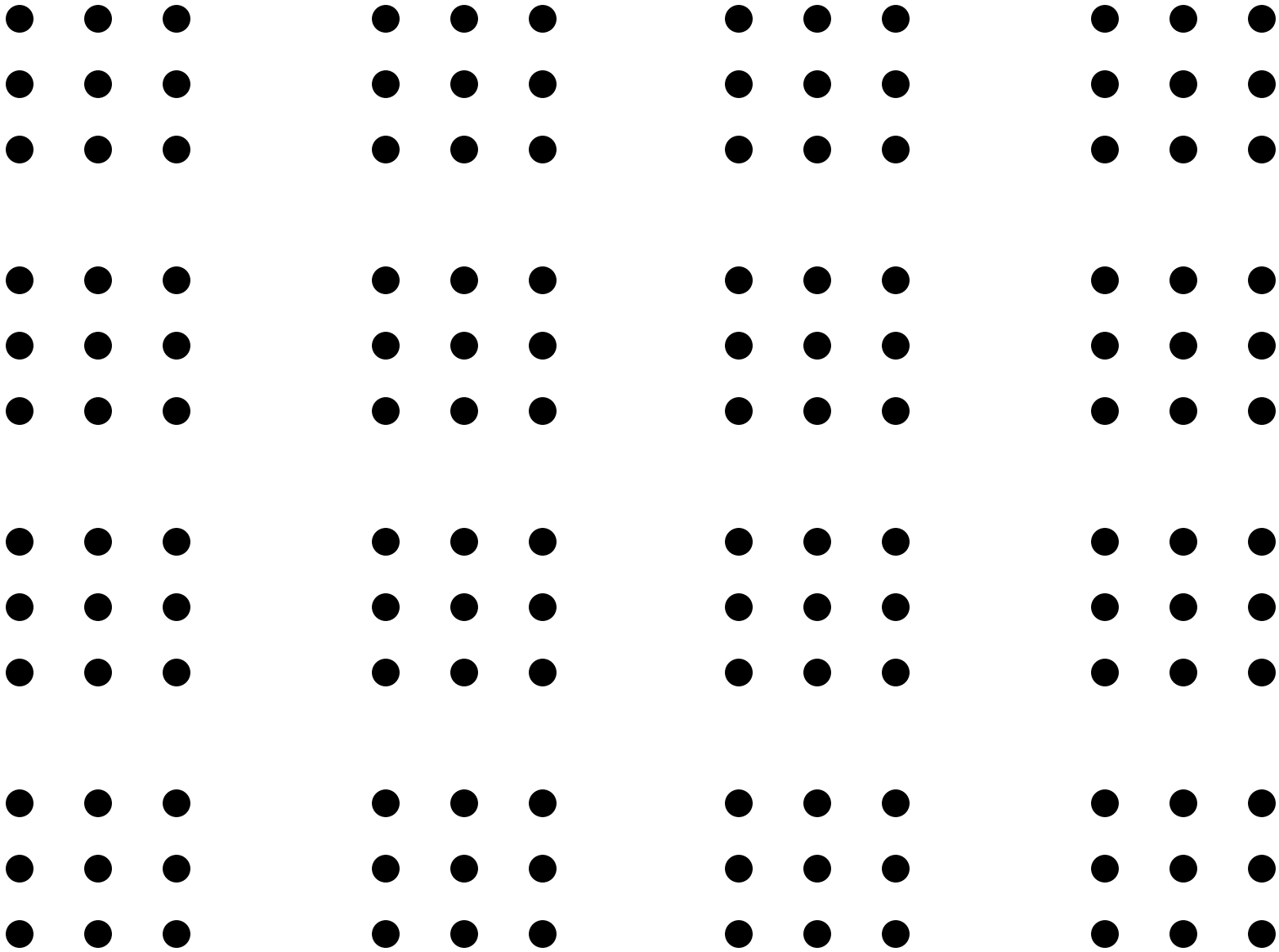


Finding all possibilities:

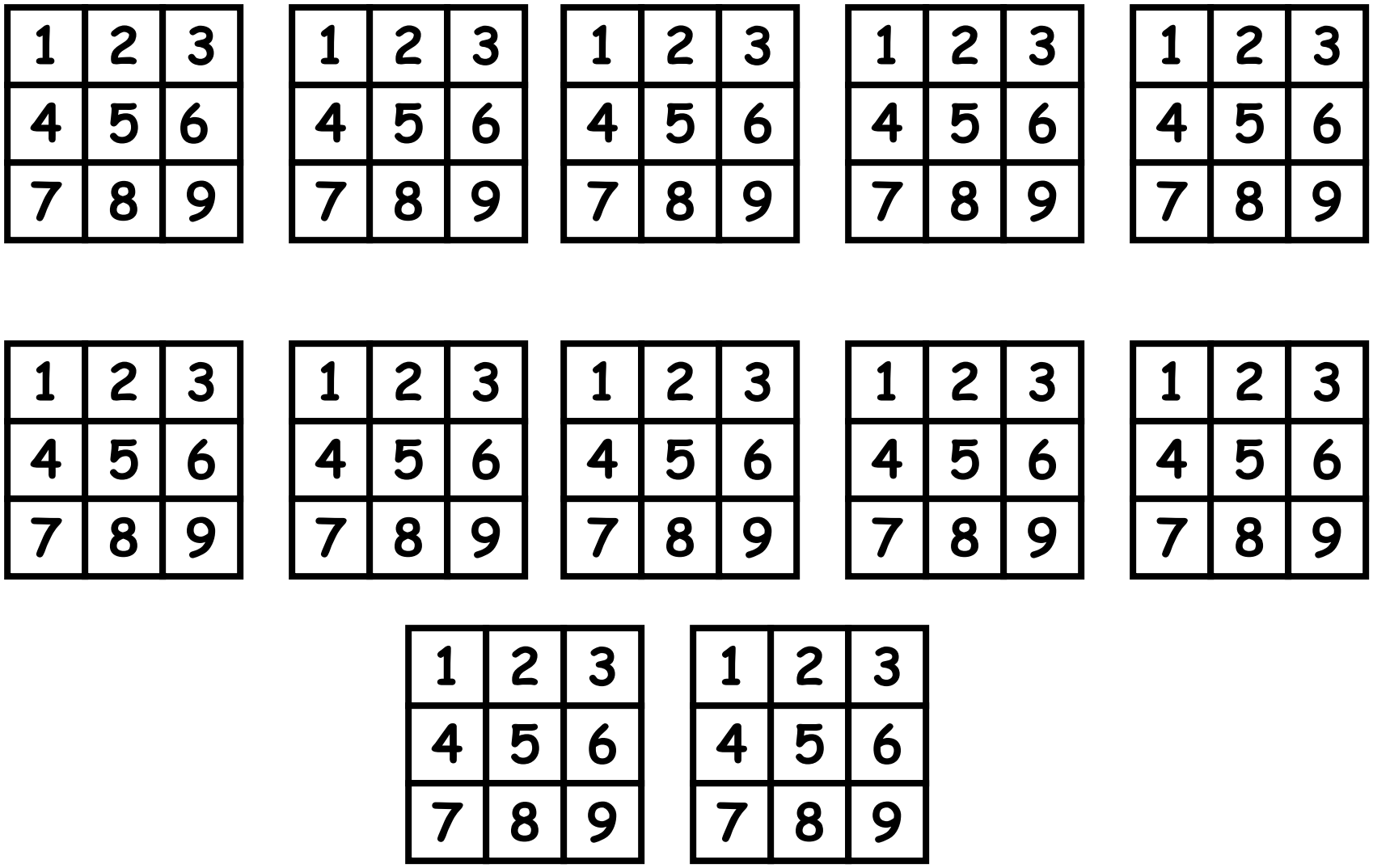
Draw as many different quadrilaterals as you can on a 3 x 3 dot grid.



Use a fresh grid for each new quadrilateral.



Making twenty:



Finding cubes of numbers

To find the cube of a number multiply the number by itself and multiply your answer again by the number, e.g.

3 x 3 x 3 becomes

3 x 3 = 9

9 x 3 = 27

27 is a cube number without a decimal.

3 x 3 x 3 is sometimes written as;

3^3 or 3 to the power 3.

Find the cubes of these numbers:

2

5

9

10

Now find the cubes of the numbers 10 to 21

10

11

12

13

14

15

16

17

18

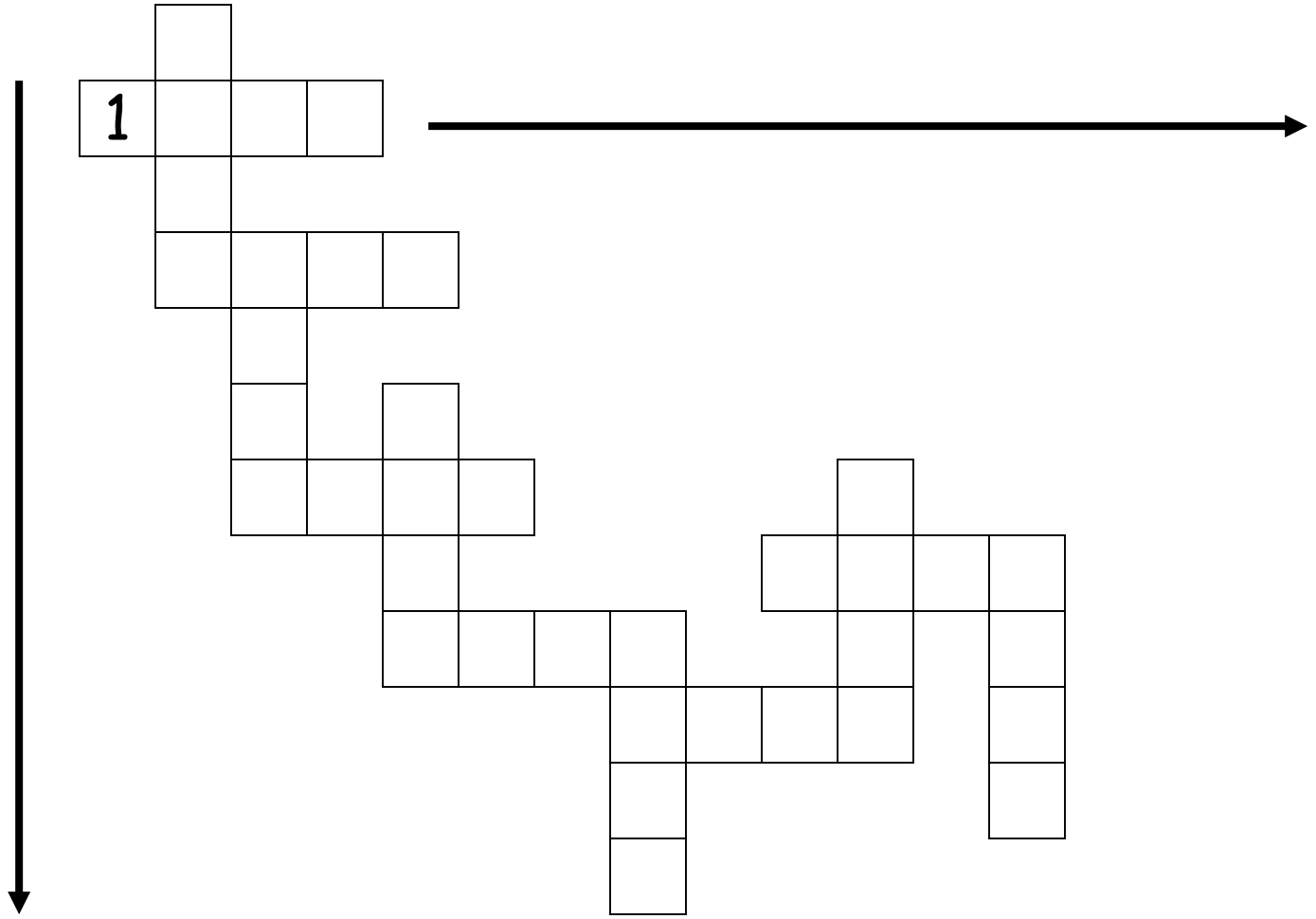
19

20

21

1000 1331 1728 2197 2744 3375

4096 4913 5832 6859 8000 9261



Find the process … mild

A

2	3	5
4	5	
16	20	

B

10	8	13
12	10	
6	4	

C

3	5	8
9	15	
19	25	

D

21	7	35
3	1	
8	6	

Find the process … moderate

A

40	76	22
27	63	
3	7	

B

4	7	8
16	49	
50	73	

C

100	60	10
20	12	
10	6	

D

55	99	121
5	9	
50	54	

Find the process … more taxing

A

36	81	16
6	9	
-1	2	

B

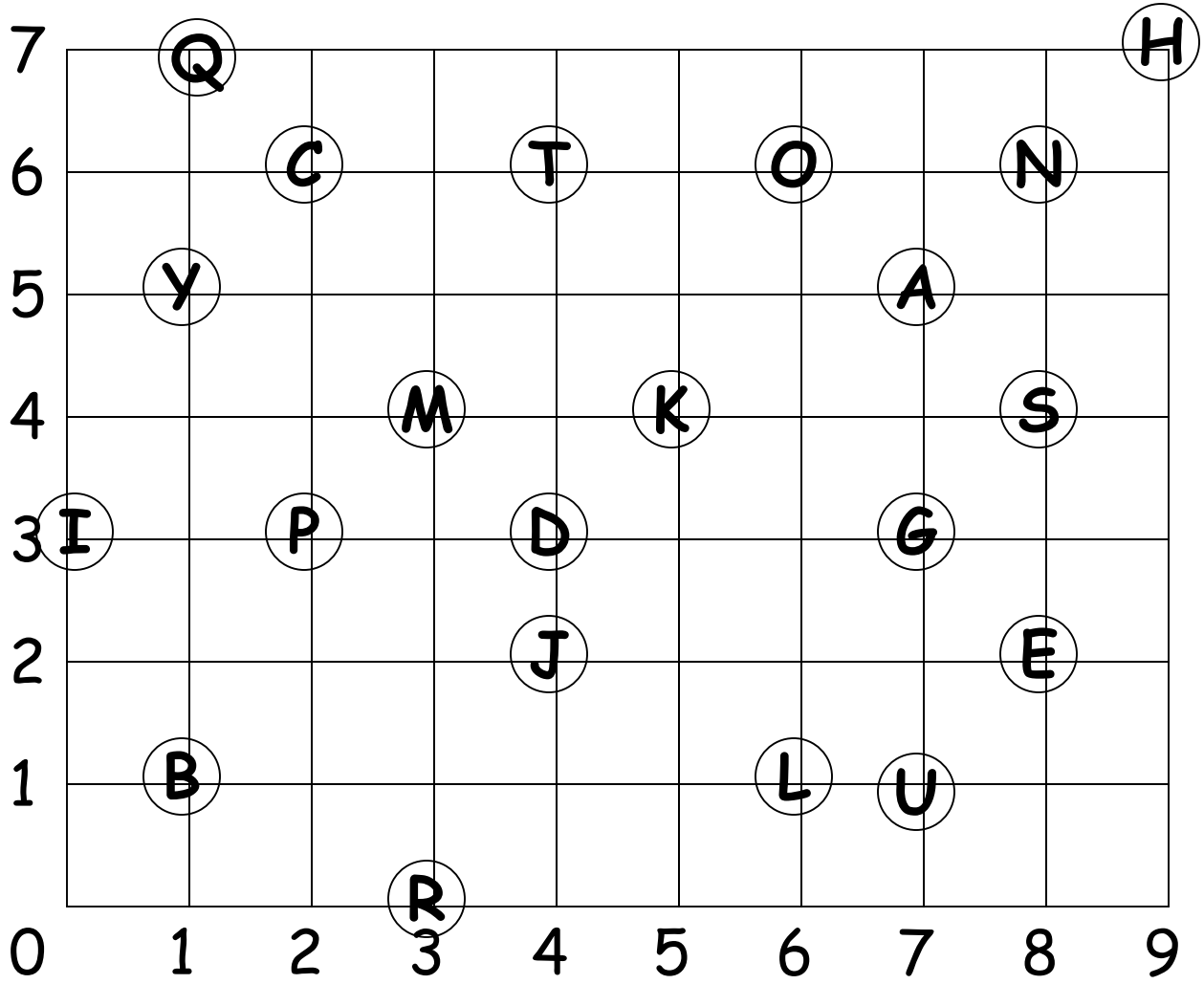
-10	0	-3
2	12	
10	60	45

C

4	10	7
16	100	
64	1000	

D

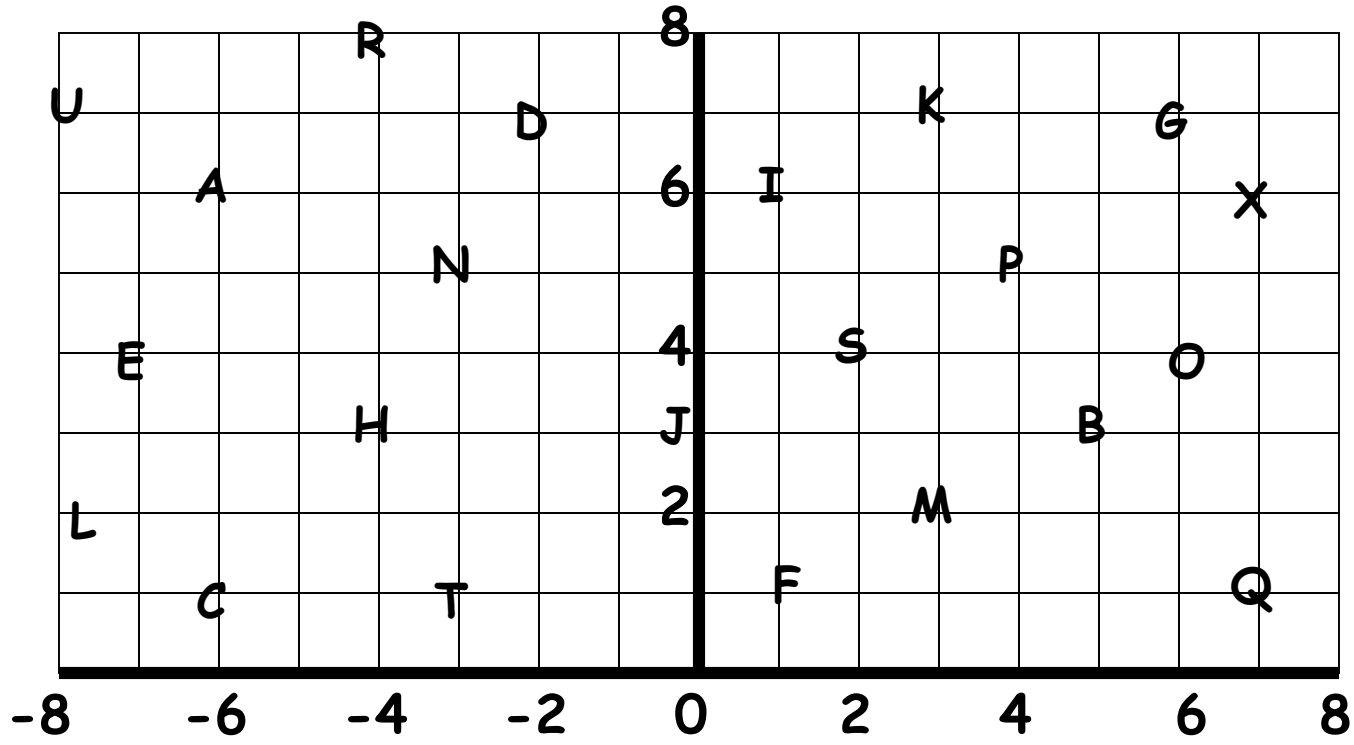
0.03	0.08	0.24
30	80	
7.5	20	60



[7,5] [3,0] [8,2] [7,5]

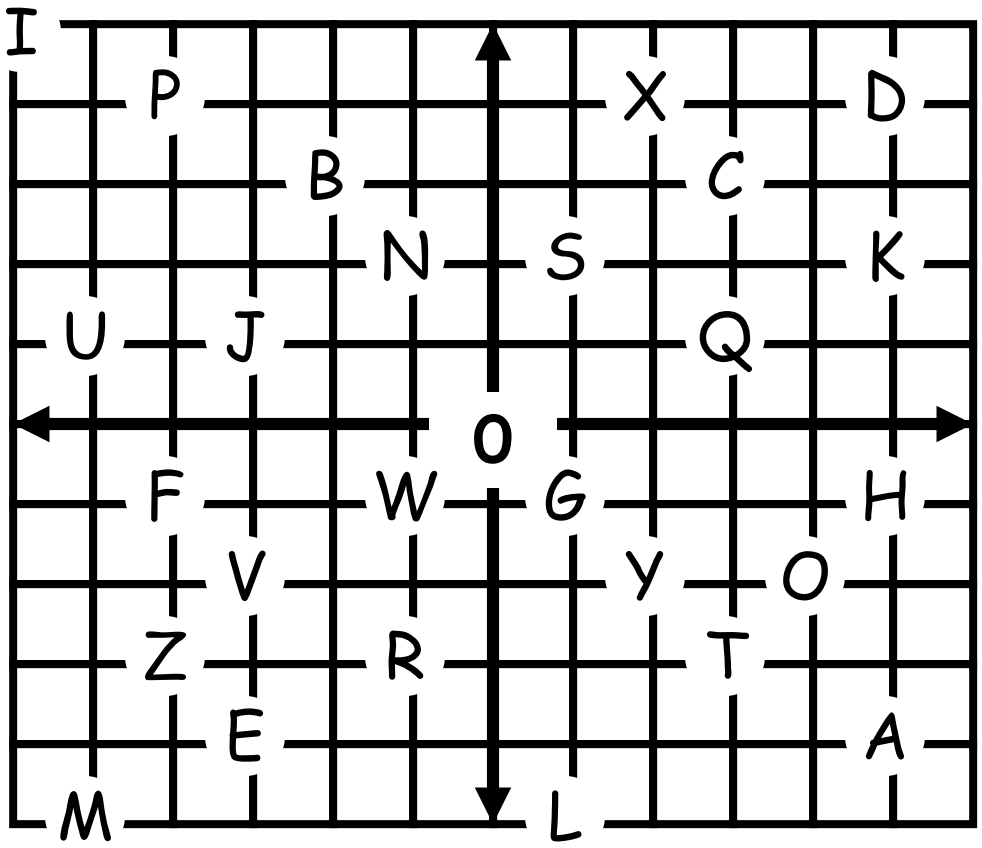
[8,4] [1,7] [7,1] [7,5] [3,0] [8,2]

[2,3] [6,6] [6,1] [1,5] [7,3] [6,6] [8,6]



[-4,8] [-4,3] [6,4] [3,2] [5,3] [-8,7] [2,4]
[-6,6] [-3,5] [6,7] [-8,2] [-7,4]
[6,4] [5,3] [-8,2] [6,4] [-3,5] [6,7]
[-4,3] [-7,4] [7,6] [-6,6] [6,7] [6,4] [-3,5]

Give co-ordinates for MODE



GRID LINES ARE 1 UNIT APART

[-3,-4] [5,5] [1,-1] [-3,-4]

[5,-4] [2,4] [-6,5] [1,2]

[-4,-1] [5,-4] [3,3] [3,-3] [4,-2] [-1,-3]

[-3,-4] [3,1] [-5,1] [5,-4] [1,-5]

[-5,-5] [-6,5] [-1,2] [-5,1] [1,2]

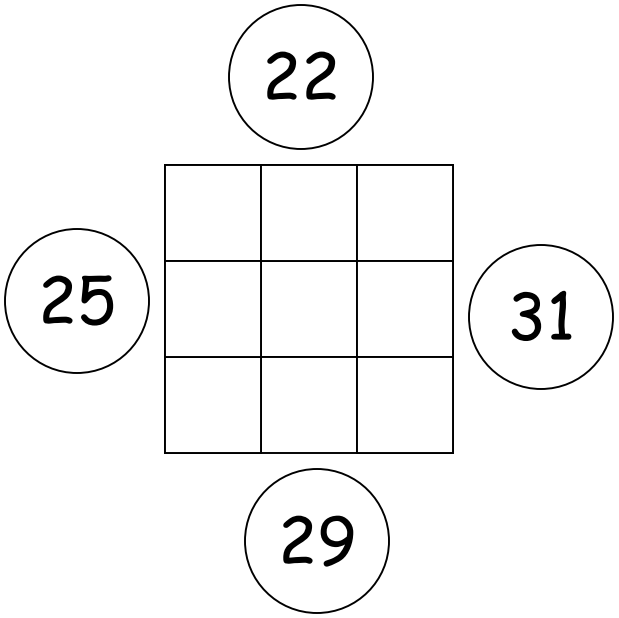
Give co-ordinates for TRIANGLE

Arranging numbers around squares ...

Here are nine numbers.

8 9 7 3 5 2 15 16 11

Arrange eight of them in the blank squares so that the sides make the total shown in the circle.

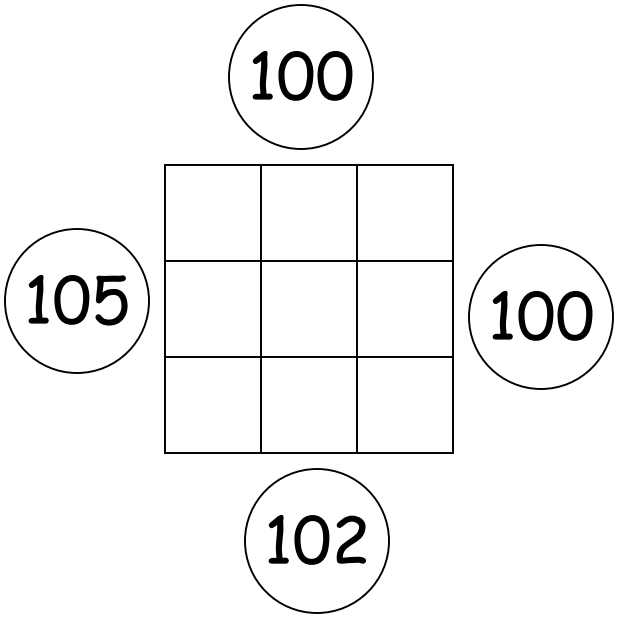


Arranging numbers around squares ...

Here are nine numbers.

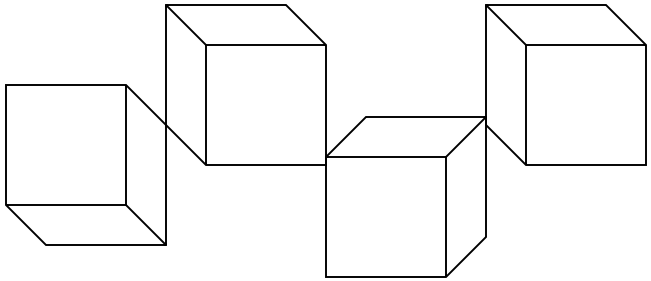
30 33 37 34 32 36 35 31 38

Arrange eight of them in the blank squares so that the sides make the total shown in the circle



Nets of a cube ...

A cube may be unfolded in many different ways to produce a net.



Each net will be made up of six squares.

There are 11 different ways to produce a net of a cube.
Can you find them all?

Rugby union scores …

In a rugby union match scores can be made by the following methods:

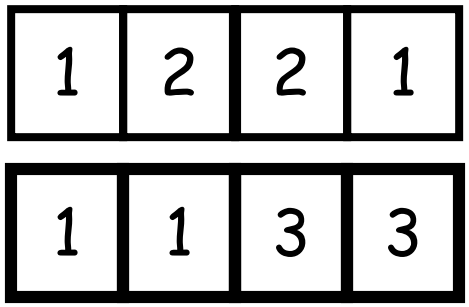
A try and a conversion	7 points
A try not converted	5 points
A penalty goal	3 points
A drop goal	3 points

In a game Harlequins beat Leicester by 21 points to 18.
How might the points have been scored?

Are there any other ways the points might have been scored?

DIGITAL CLOCK

The displays show time on a digital clock.



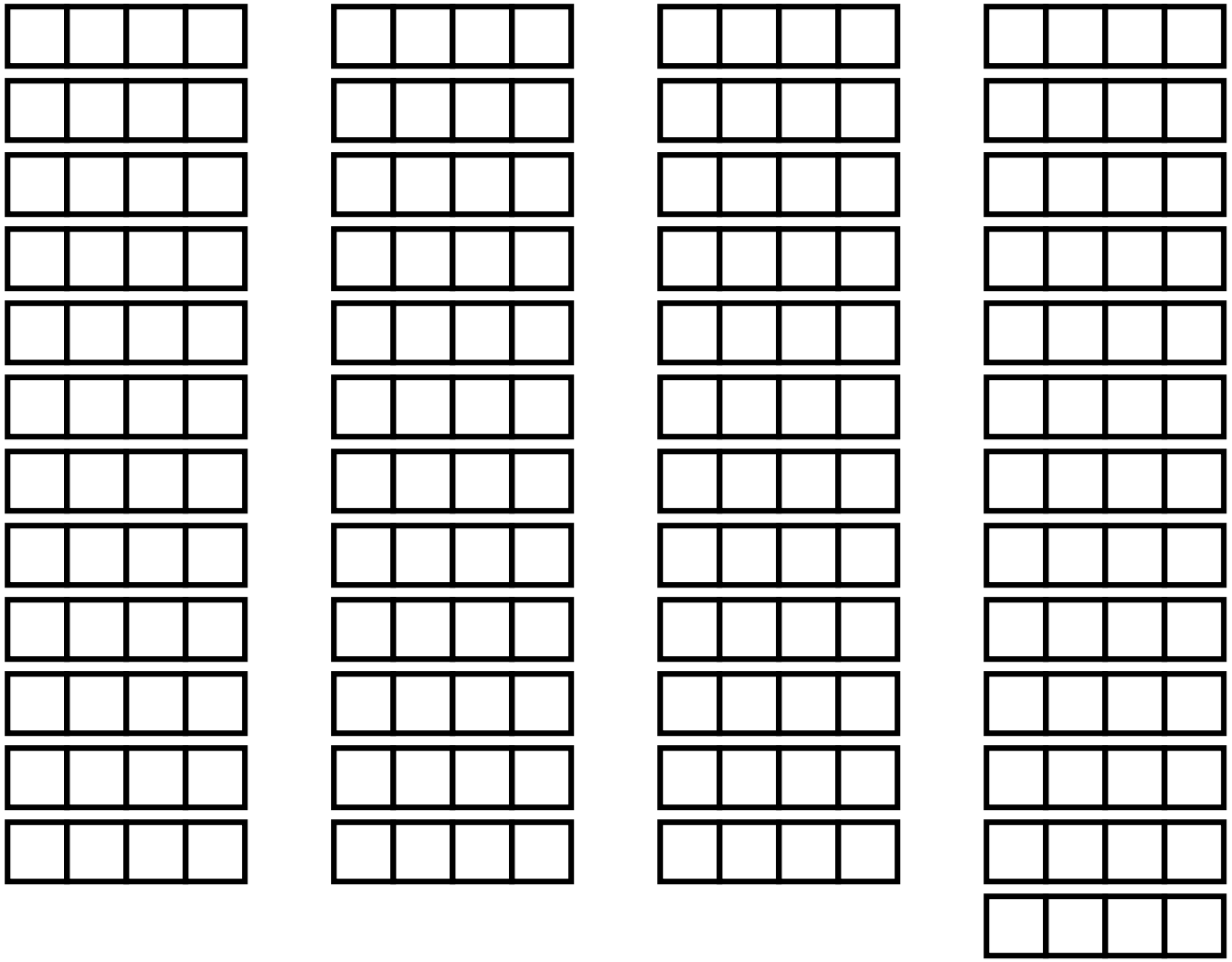
The display shows 2 different digits, each used twice.

Can you find all the occasions during the day when the clock will display 2 different digits twice each?

There are forty-nine altogether

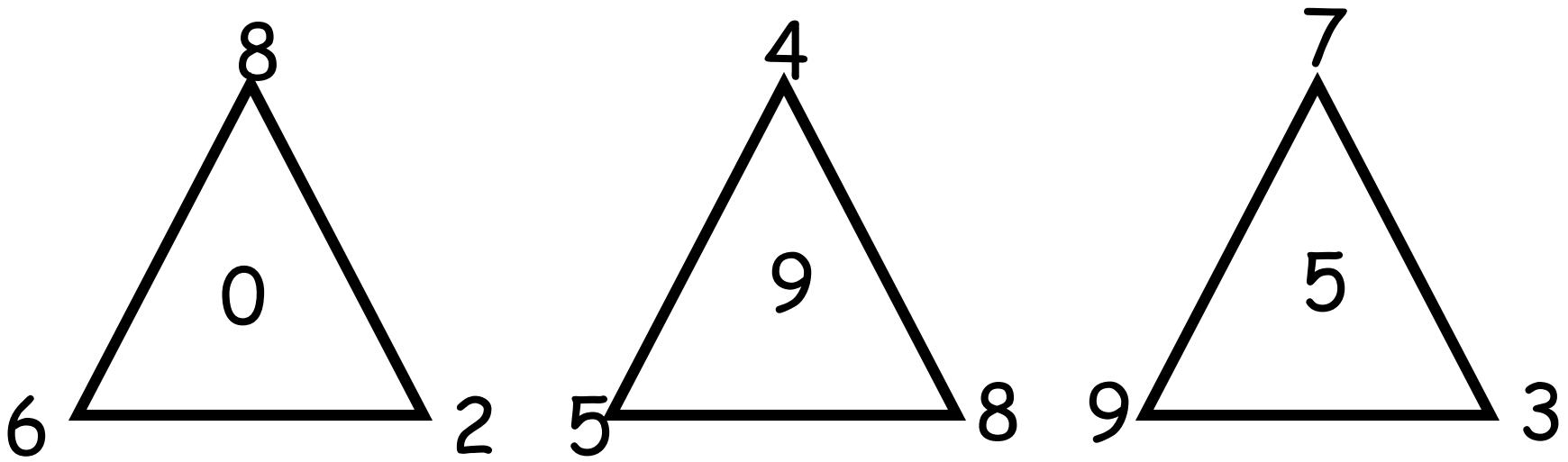
Look for a systematic way of working

Two digits appearing twice on a digital clock.



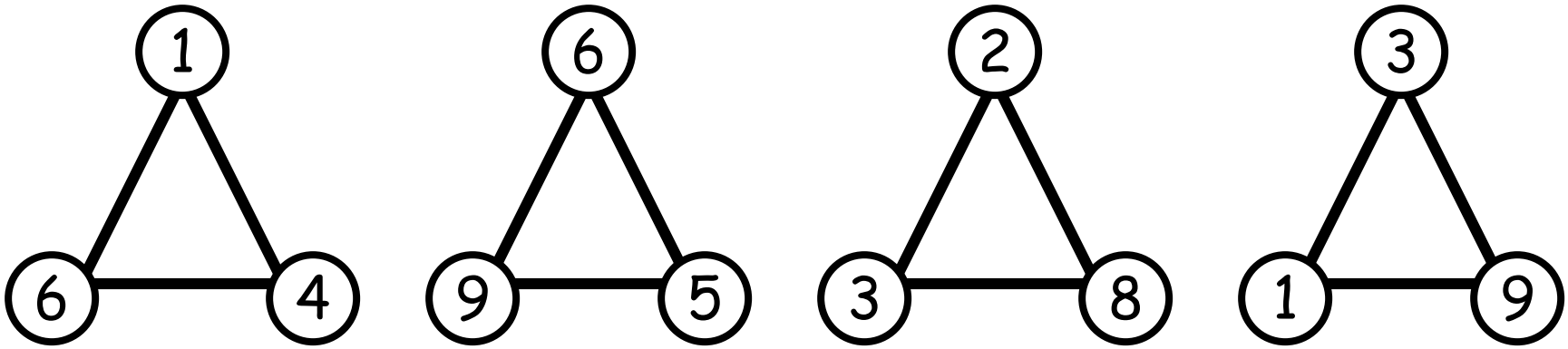
Triangle test

Each of the triangles below use the same rule to produce the answer in the middle.

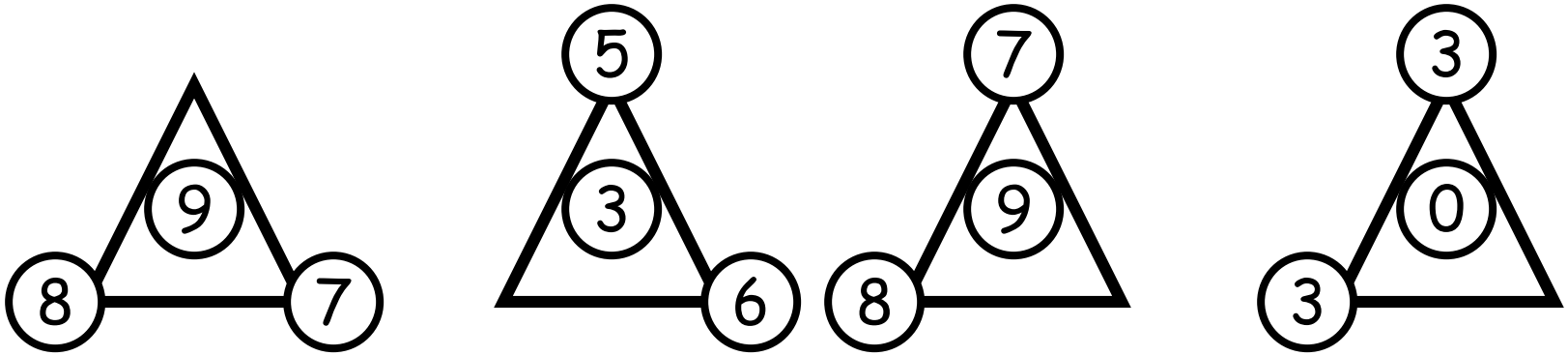


Can you find the rule?

Using the rule on the previous slide which numbers fit in these triangles?

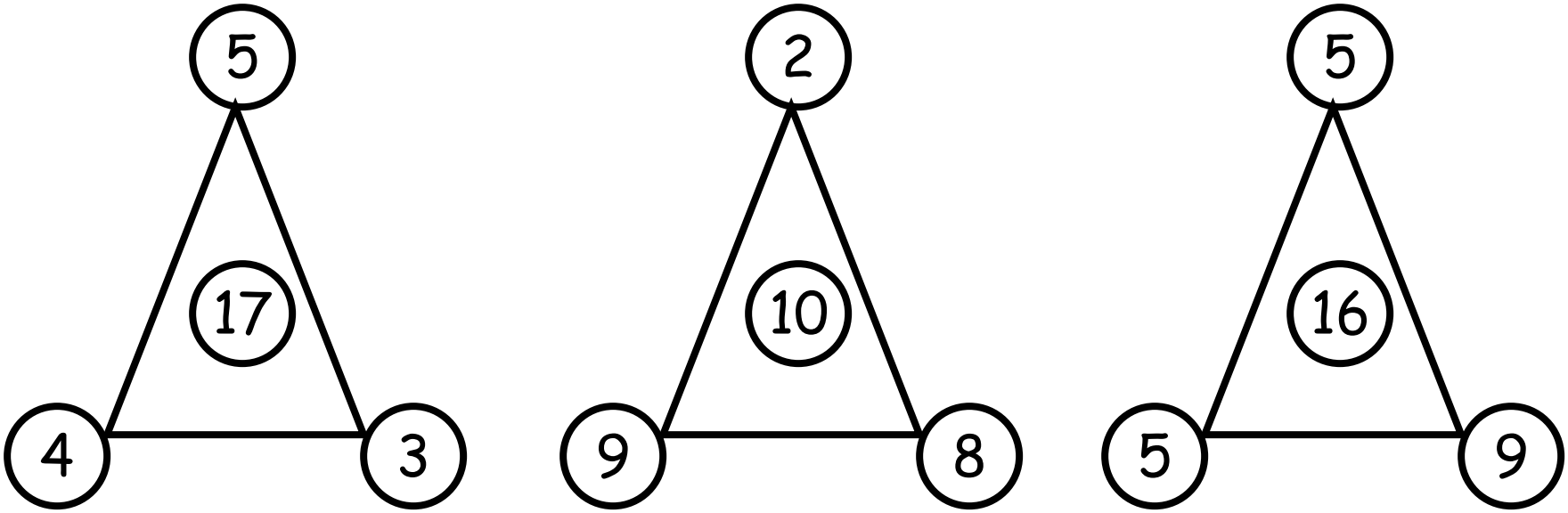


Using the same rule can you find which numbers fit at the missing apex of each triangle?



Triangle test

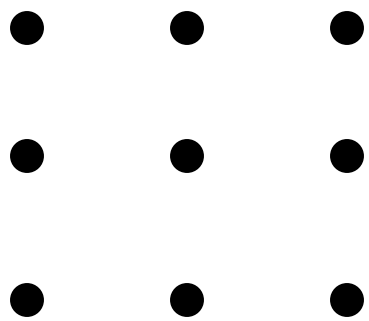
Can you find a rule that links the points of these triangles with the outcome in the middle?



TASK: Create some triangle sequences for yourself and ask your friends to find the rule you have used.

Nine dots

Nine dots are arranged on a sheet of paper as shown below.



TASK: Start with your pencil on one of the dots.

Do not lift the pencil from the paper.

Draw four straight lines that will connect all the dots

Fifteen coins make a pound.

How many different combinations of 15 coins can you find that will make exactly £1?

Coins may be used more than once.

Marble exchange

The exchange rate for marbles is as follows:

3 GREEN marbles has the same value as **5 BLUE** marbles

2 RED marbles have the same value as **1 PURPLE** marble

4 RED marbles have the same value as **3 GREEN** marbles

How many **BLUE** marbles can you get for **8 PURPLE** marbles?

Counters.

Jack has four different coloured counters.

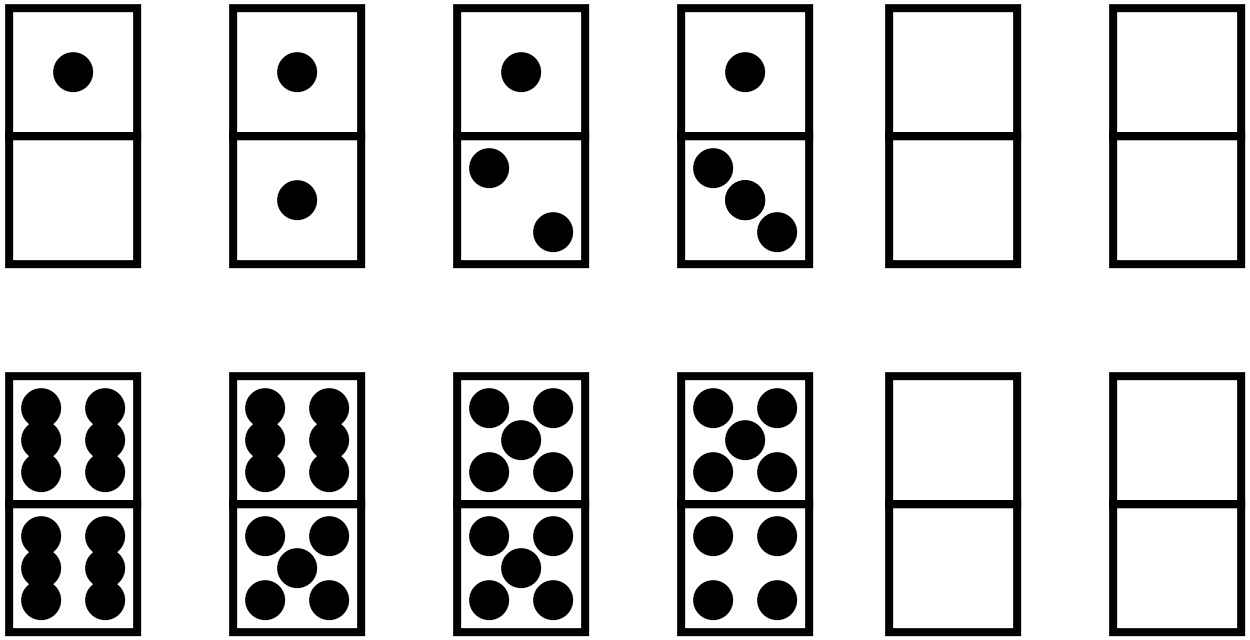
He arranges them in a row.

How many different ways can he arrange them?

There are 24 possible combinations.

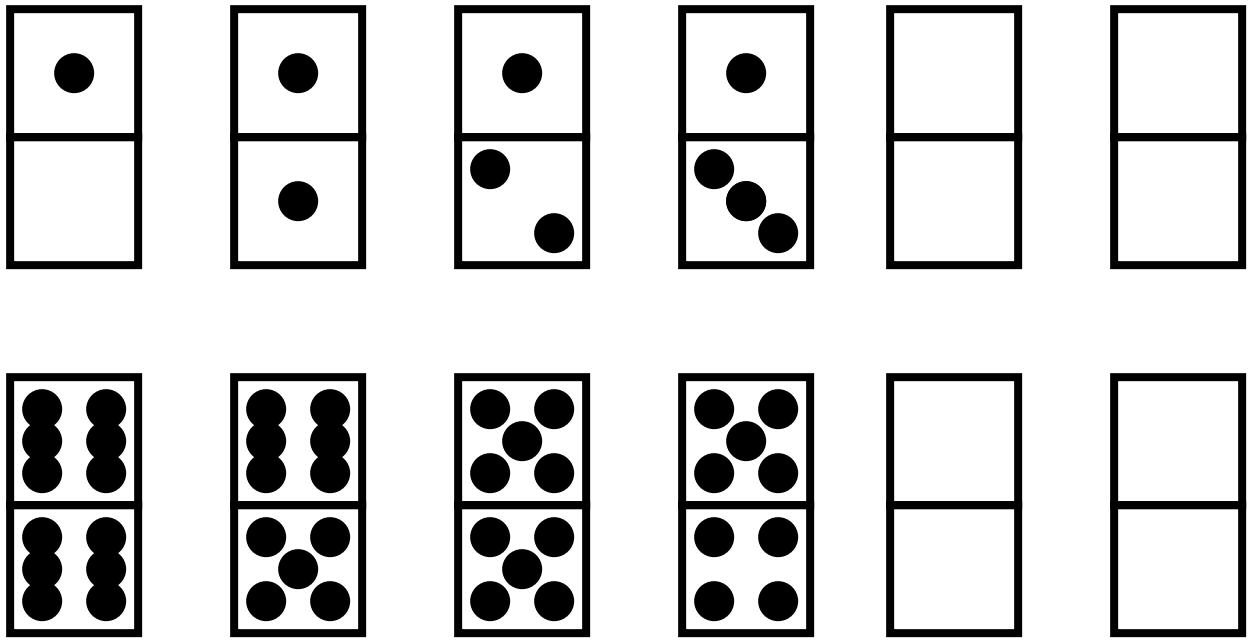
Domino sequences.

Find the next two dominoes in each of these sequences.

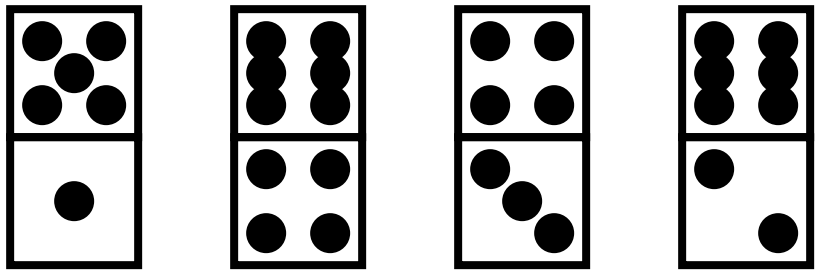


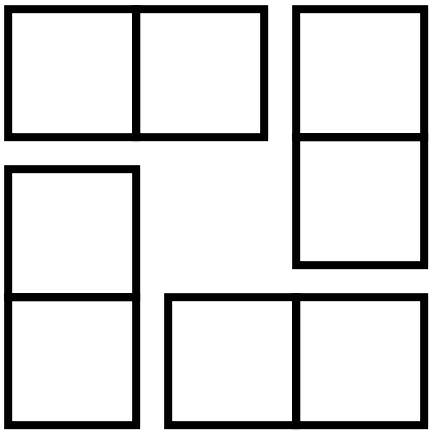
Domino sequences.

Find the next two dominoes in each of these sequences.



Domino squares.





The four dominoes above are arranged in a square pattern.

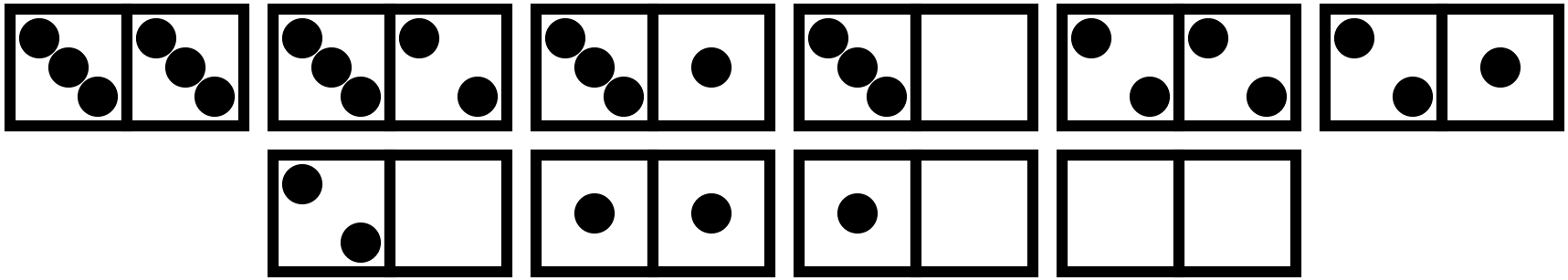
Each side of the pattern adds up to 12.

How might the dominoes be arranged?

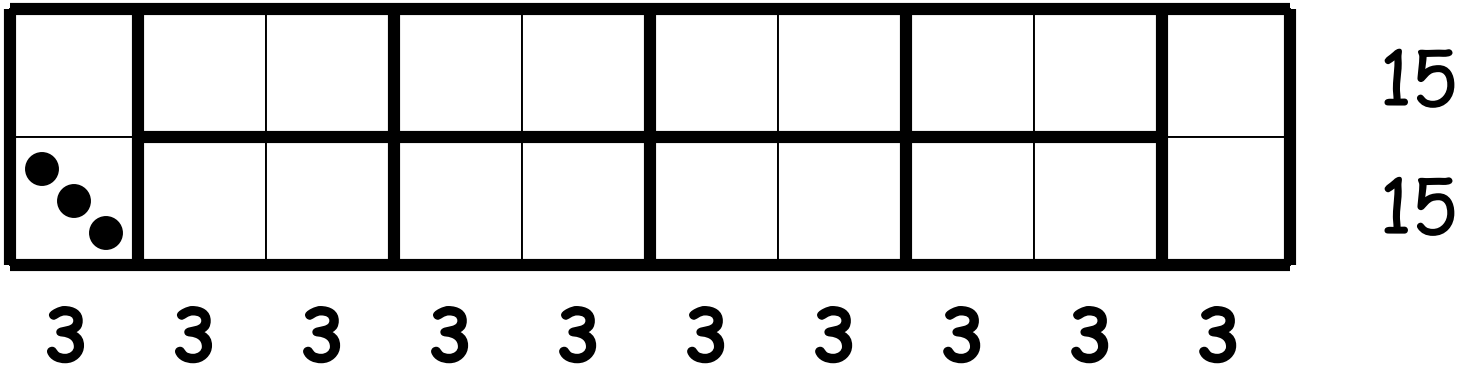
Are there any other possible solutions?

Can you find four other dominoes that can make a number square?

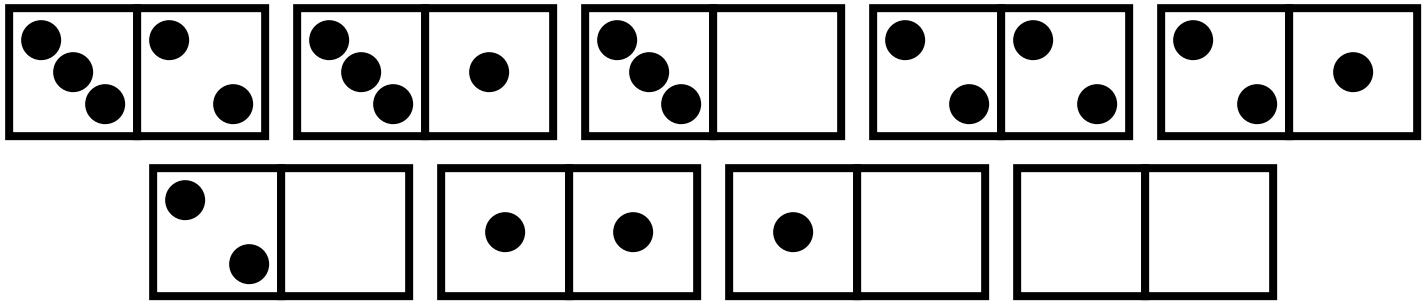
Dominoes puzzle:



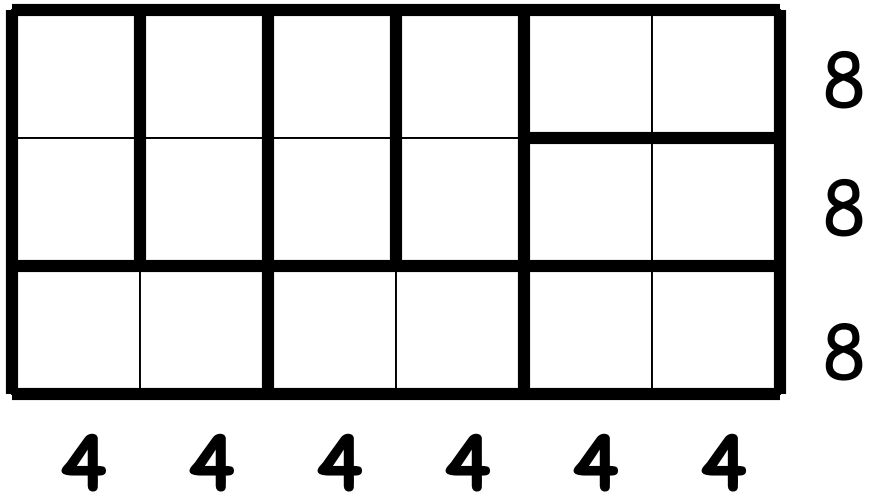
Rearrange these dominoes in the framework below so that the total number of spots in each column adds up to 3 and the total of each row is 15. Draw spots to show how you would do it.



Dominoes puzzle:



Rearrange these dominoes in the framework below so that the total number of spots in each column adds up to 4 and the total of each row is 8. Draw spots to show how you would do it.



Patio pathways

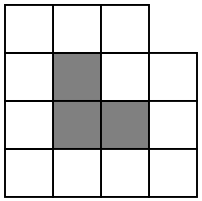
Jodie is making a patio.

She uses grey tiles and white tiles.

She first makes an L shape with equal arms from red slabs.

She then puts a grey border around the patio.

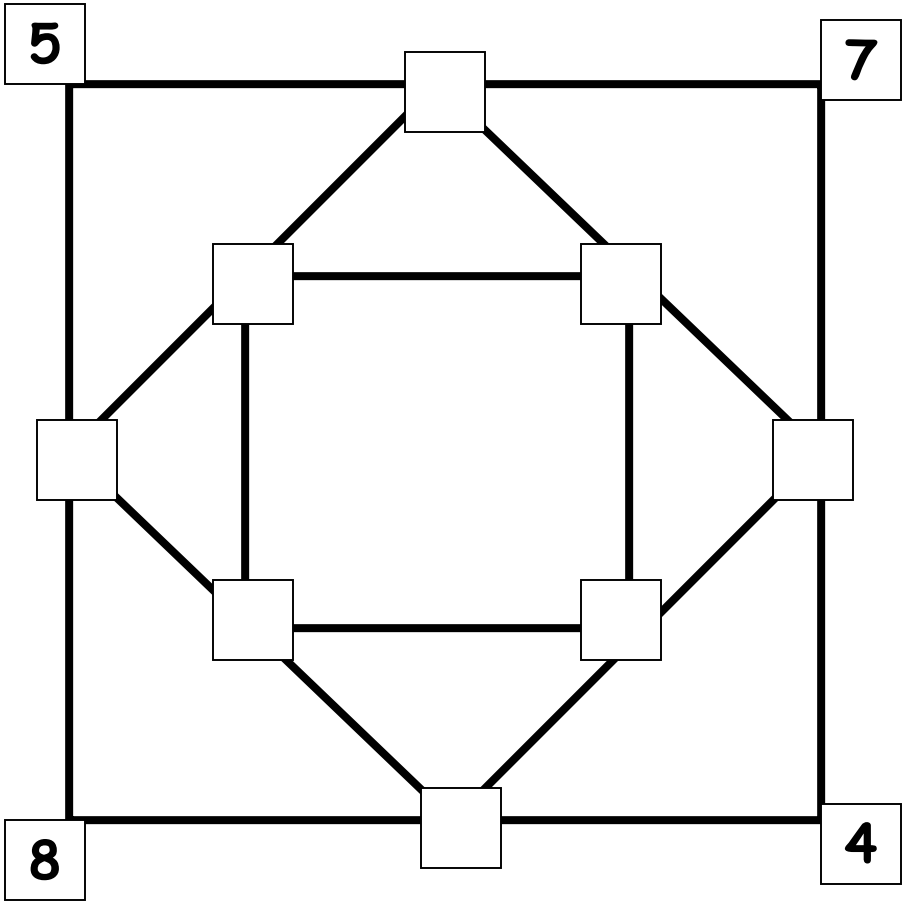
The smallest possibility has been done for you.



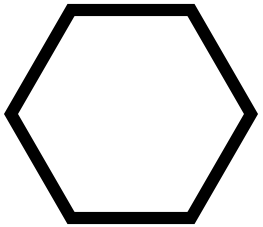
Arm length	2
red slabs	3
grey slabs	12
total slabs	15

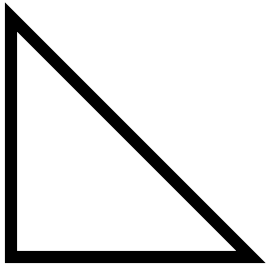
Draw the next <u>four</u> patios and record your results in the table

Number squares



What if we used … ?





What if we used … ?

Subtraction

Multiplication

Division

Playing with consecutive numbers.

The number 9 can be written as the sum of consecutive whole numbers in two ways.

$9 = 2 + 3 + 4$ $\qquad\qquad$ $9 = 4 + 5$

Think about the numbers between 1 and 20.

Which ones can be written as a sum of consecutive numbers?

Which ones can't?

Can you see a pattern?

What about numbers larger than 20?