A Collection of BTC Math Slides for Primary

These slides were created by Karen Lirenman . The tasks have come from from many different sources and many were created by Karen after being inspired by other tasks. Karen has tried to site sources when she has had them. If you know the original site for a task and it's not listed please reach out to her so she can add the link. These tasks were created while she was teaching grades two and three although most tasks can be used for grades above or below.
There are multiple types of tasks here beyond just the Non Curricular Tasks that you see in the beginning. Each new task topic has it's own "title" slide. These include:

Links to some of my sources….

https://www.openmiddle.com/

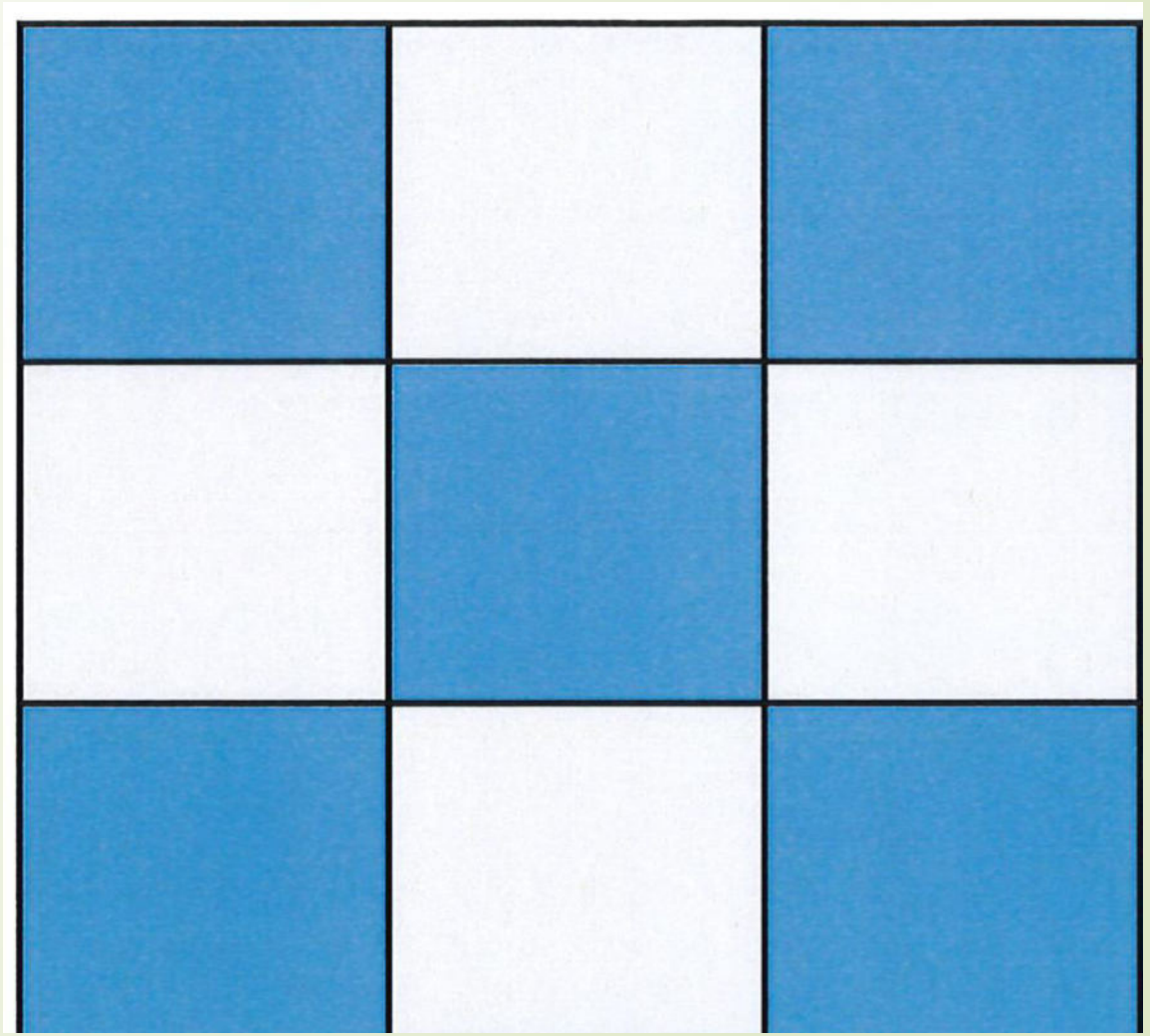
https://nrich.maths.org/

https://www.aliciaburdess.com/teacher-resources

https://mindfull.wordpress.com/ (I own her good questions books)

Non Curricular Tasks

How many squares do you see?



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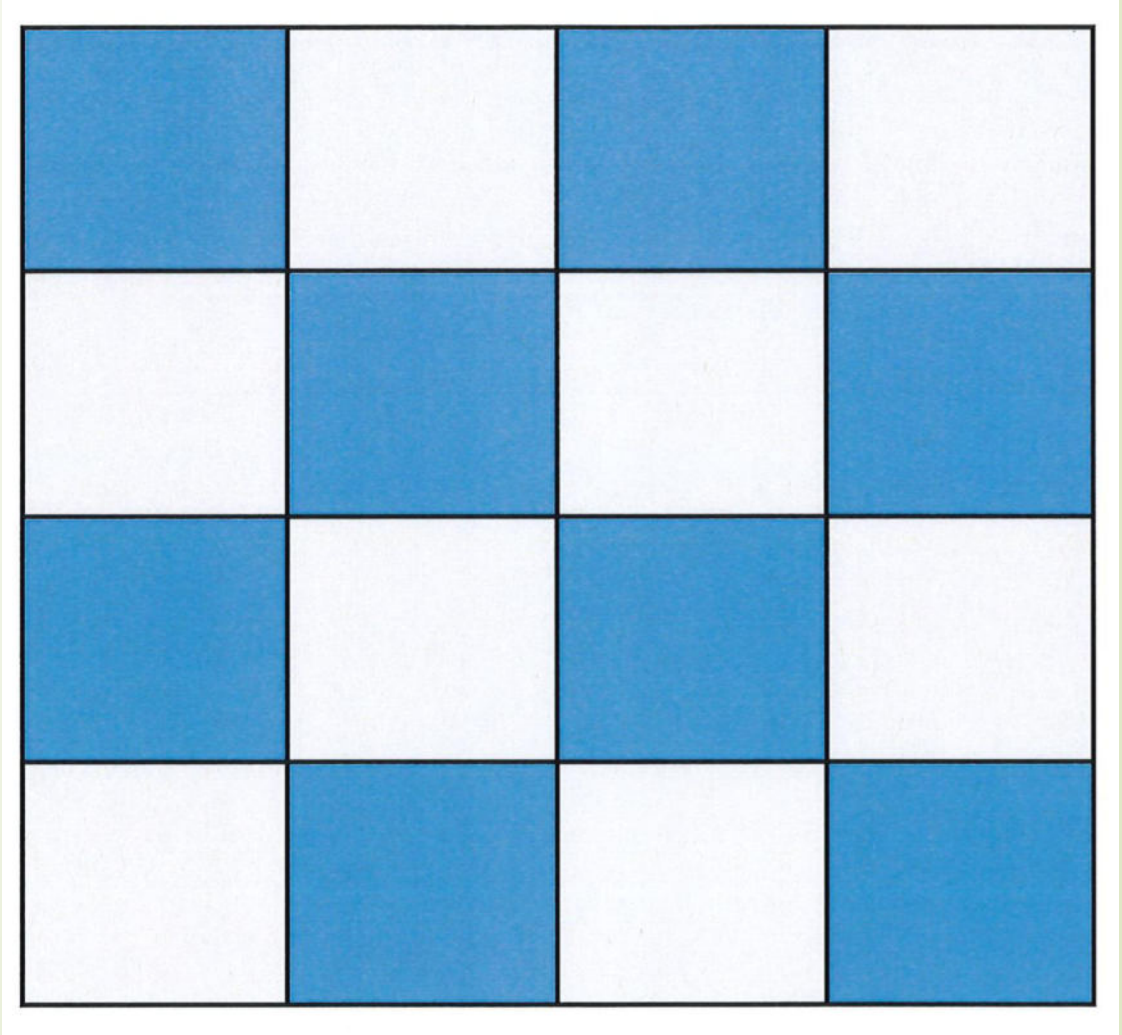

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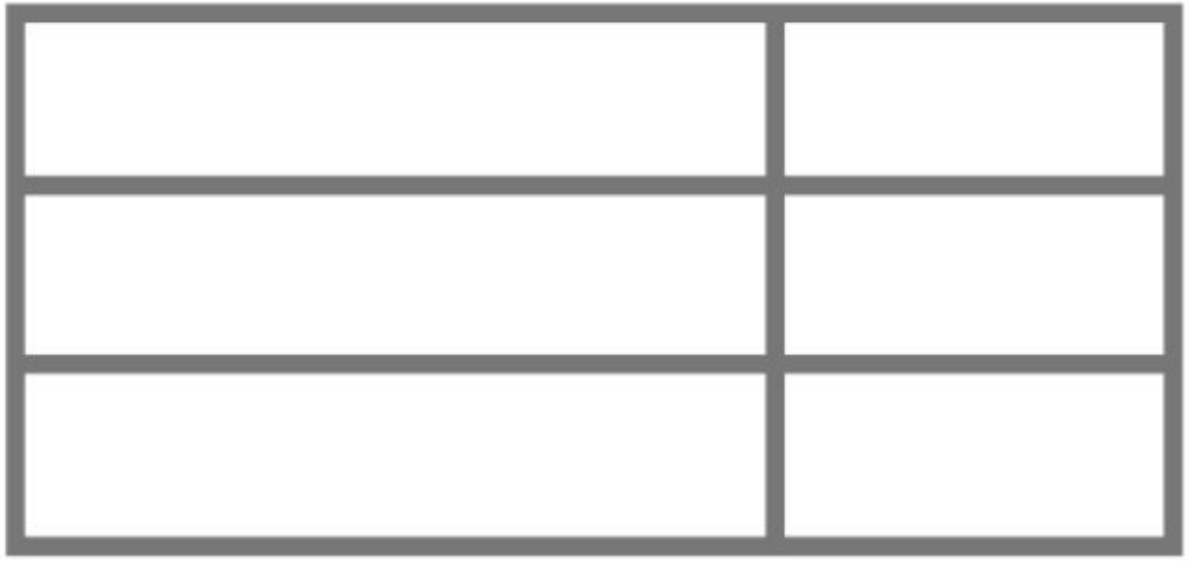
How many rectangles do you see?



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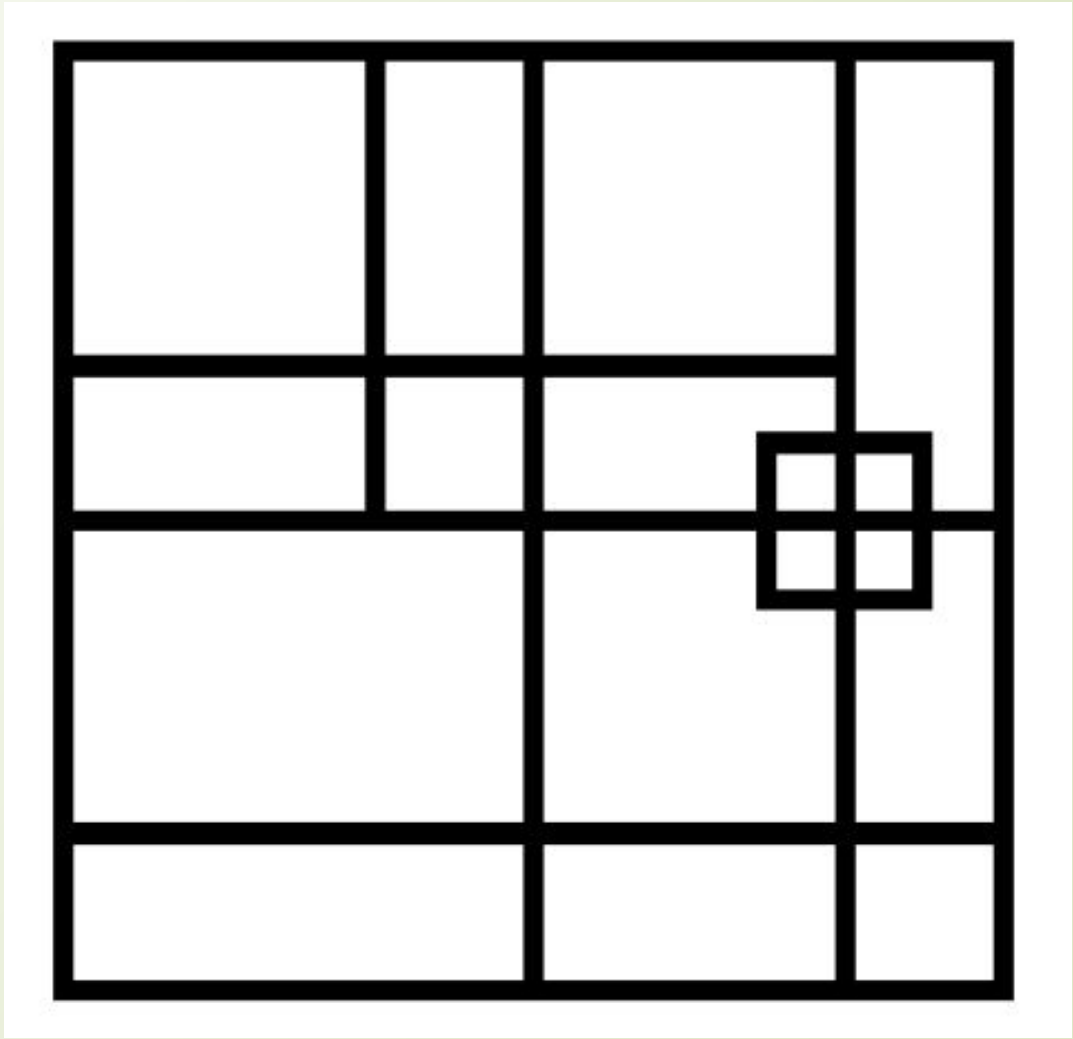
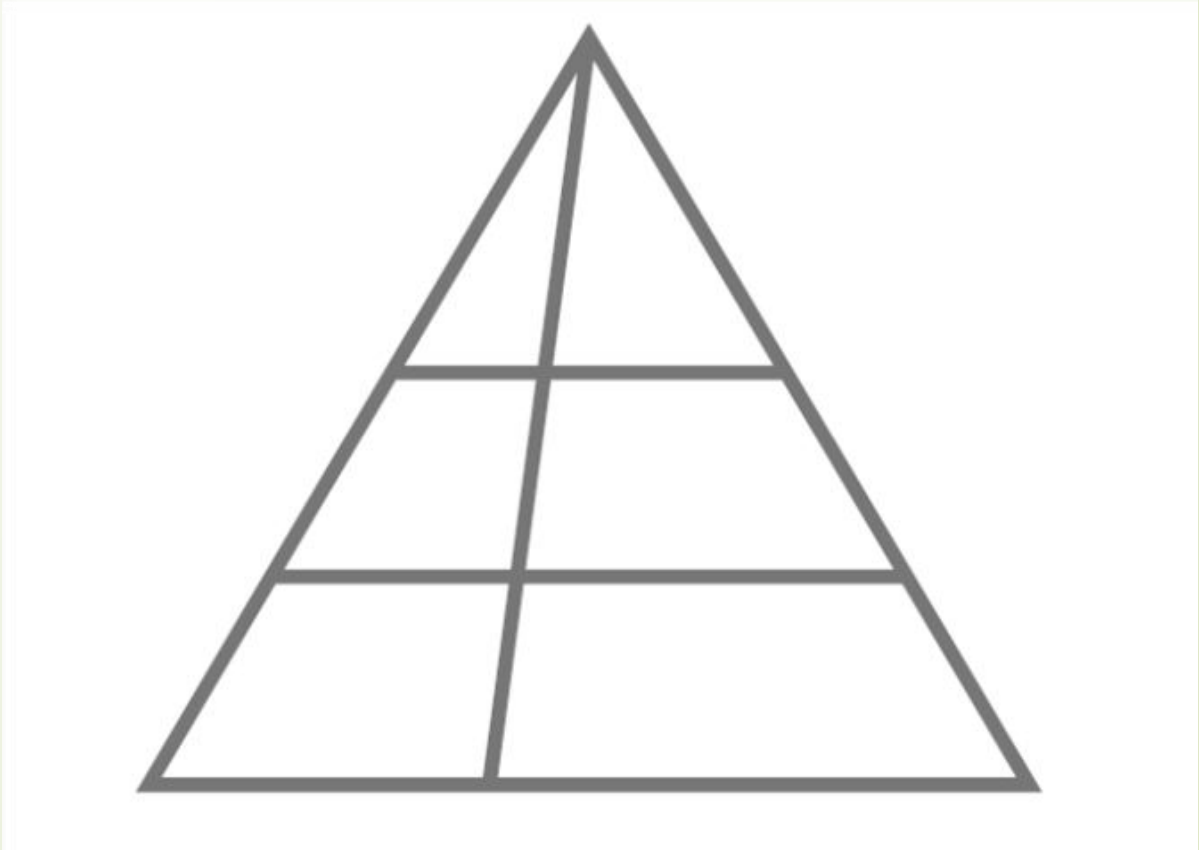


How many triangles do you see?



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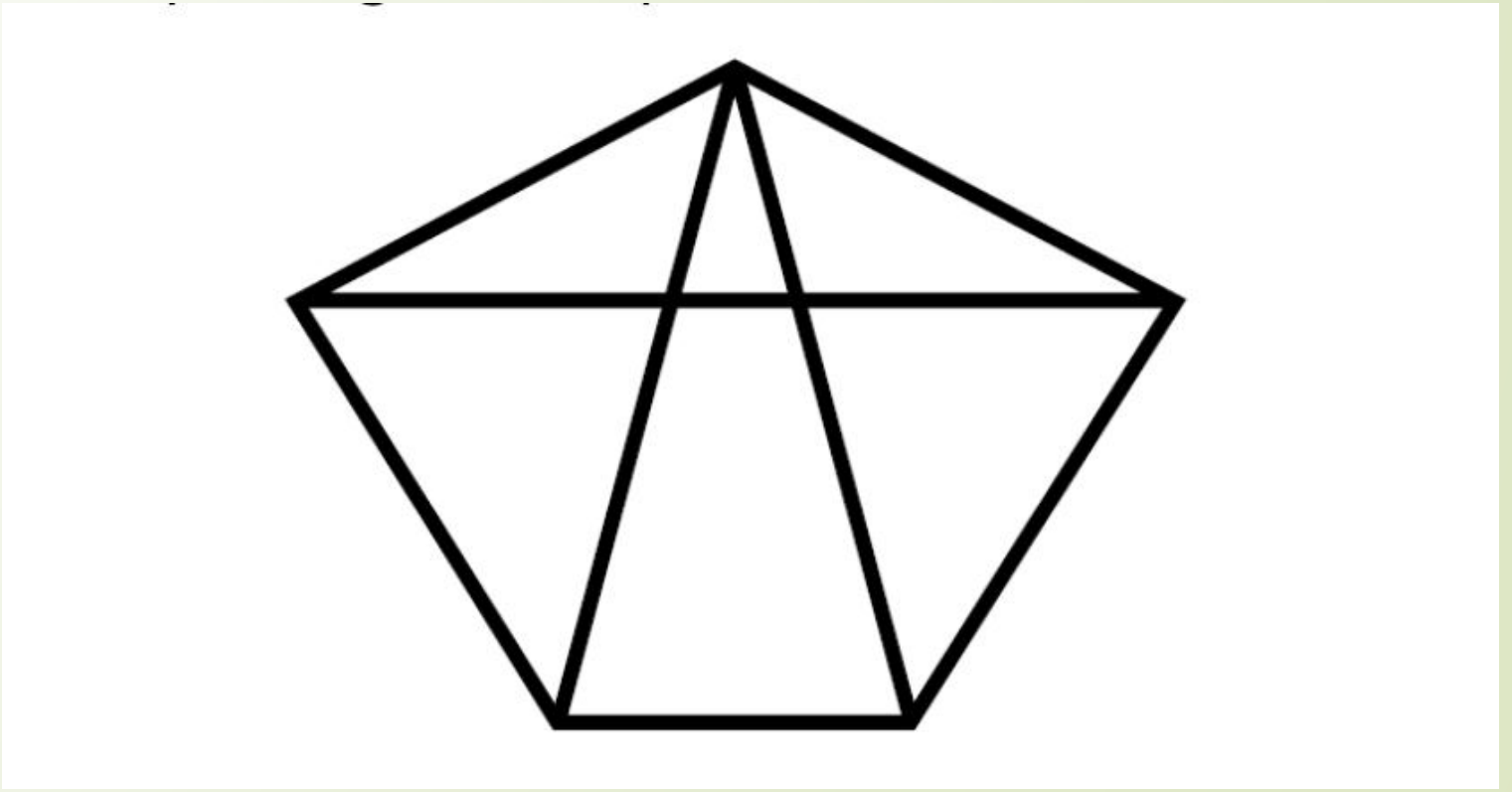

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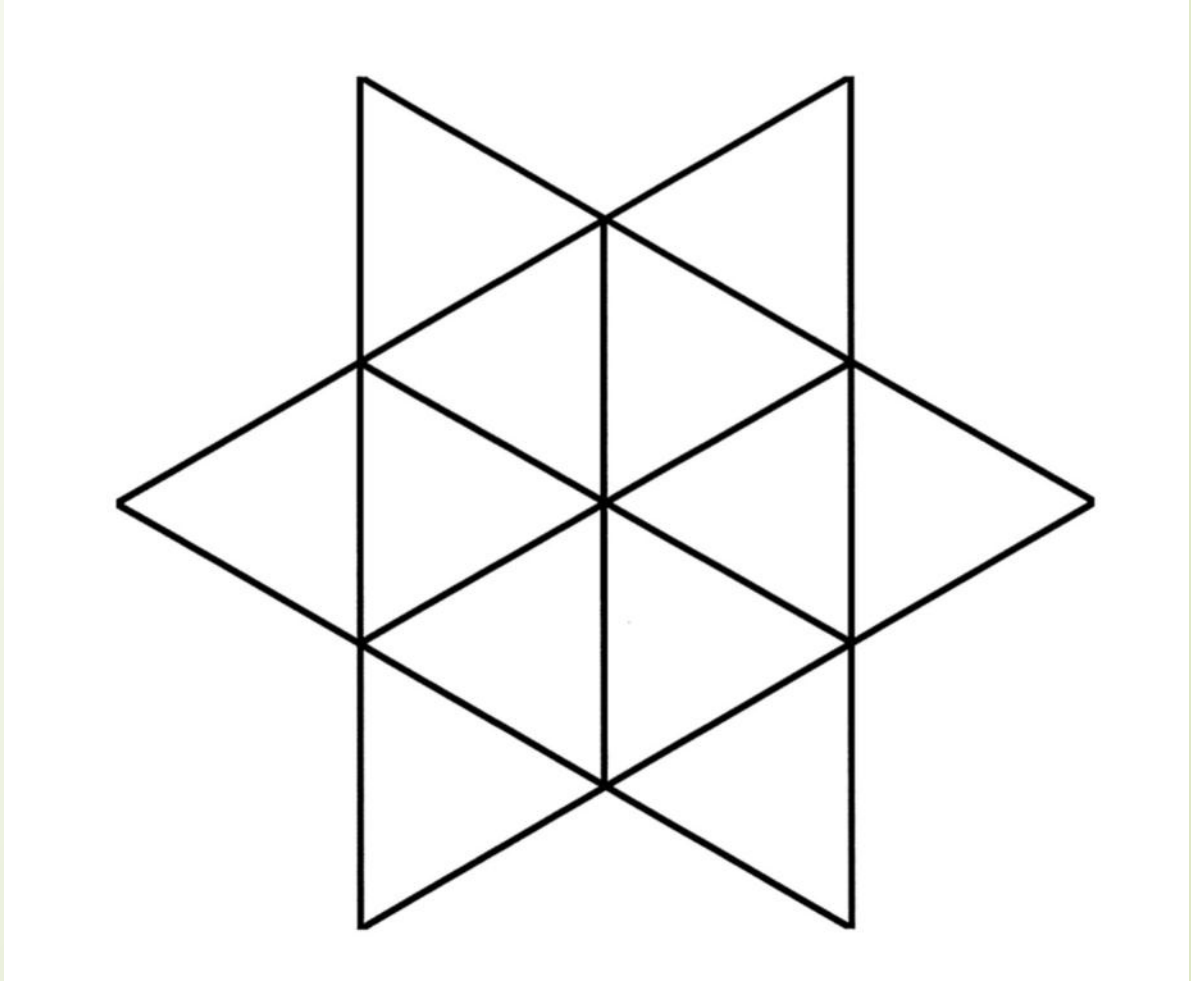


How many cupcakes had no decorations?

Did any cupcakes have all 3 decorations?

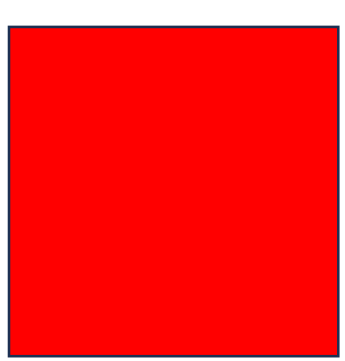
Ms. L. decorated 20 cupcakes.

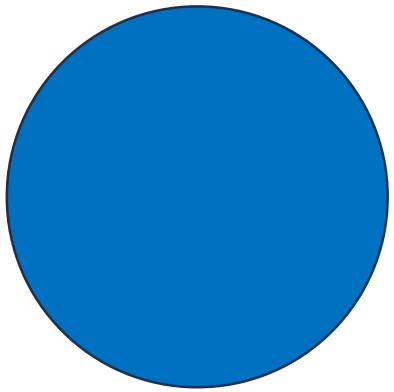
She put green icing on every 2nd cupcake.

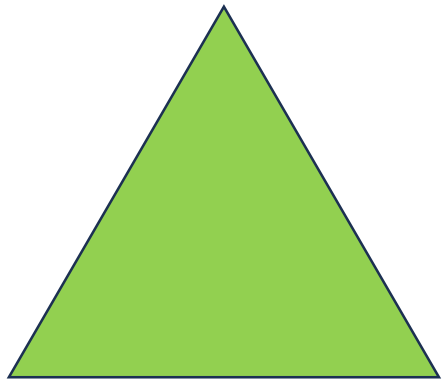
Then she put a red cherry on every 3rd cupcake.

Then she put a yellow star on every 4th cupcake.

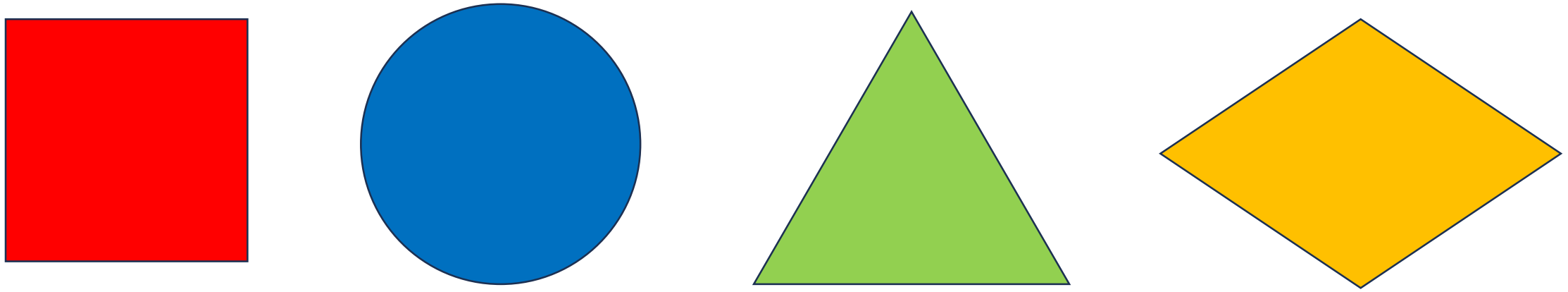
A square, circle, and triangle had a race. How did everyone do?



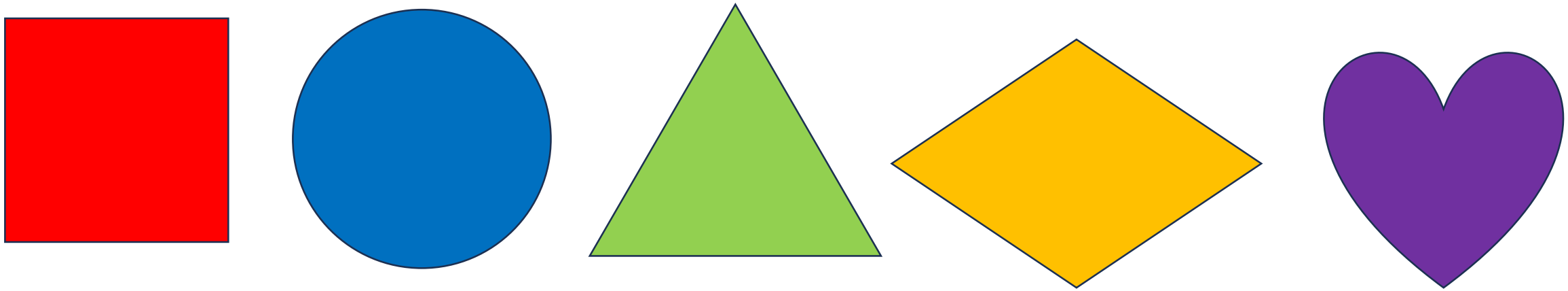




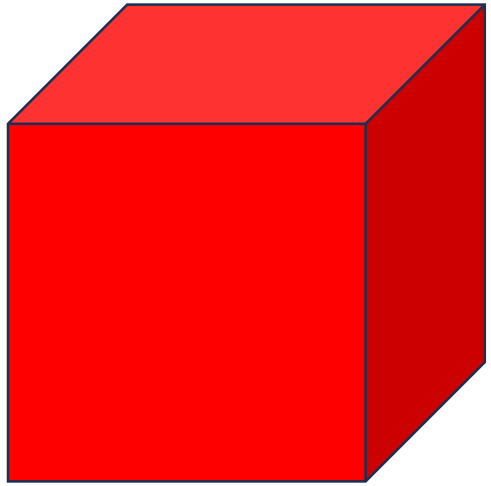
A square, a circle, a triangle, and a diamond had a race. How did everyone do?

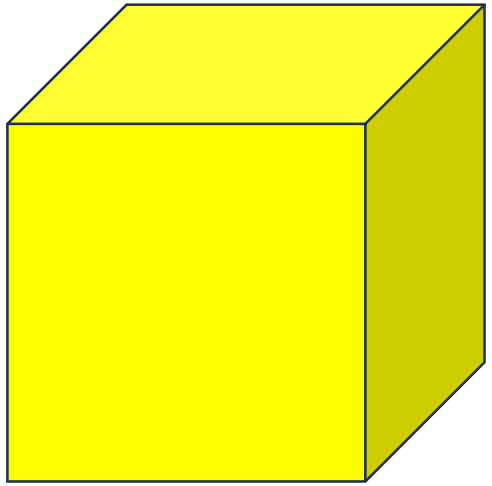


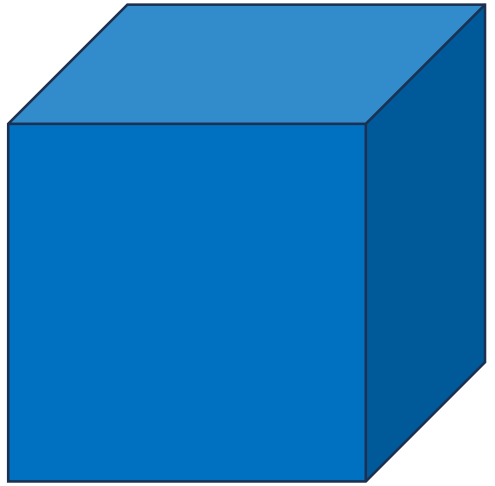
A square, a circle, a triangle, a diamond, and a heart had a race. How did everyone do?



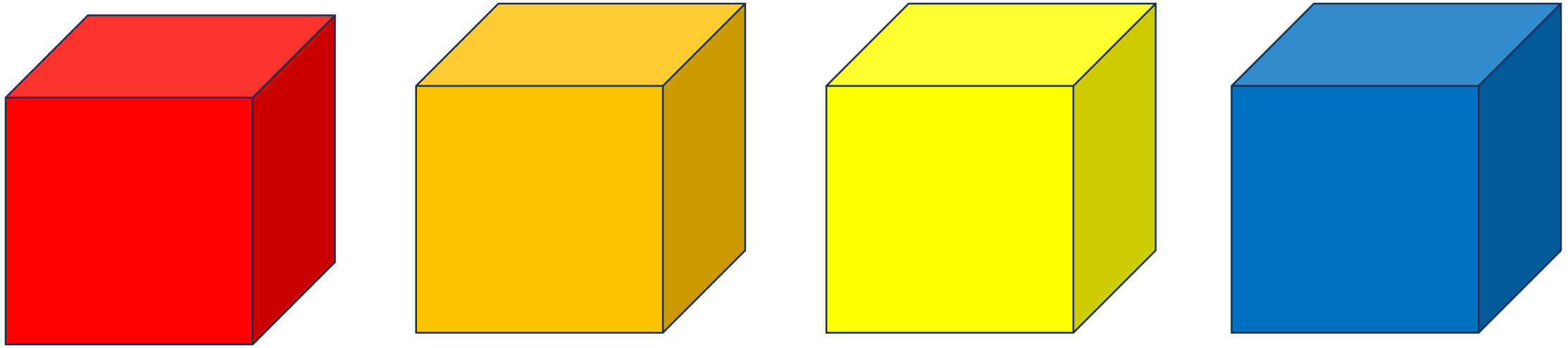
How many ways can you stack these three cubes?



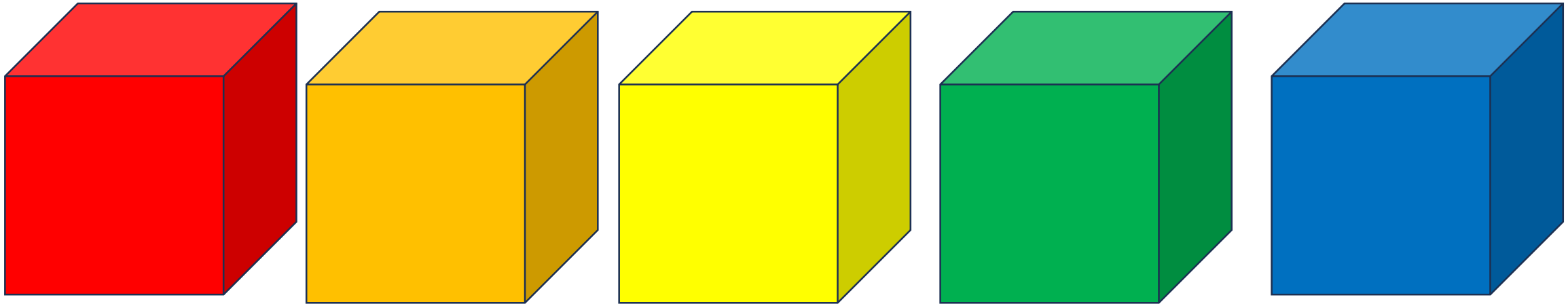




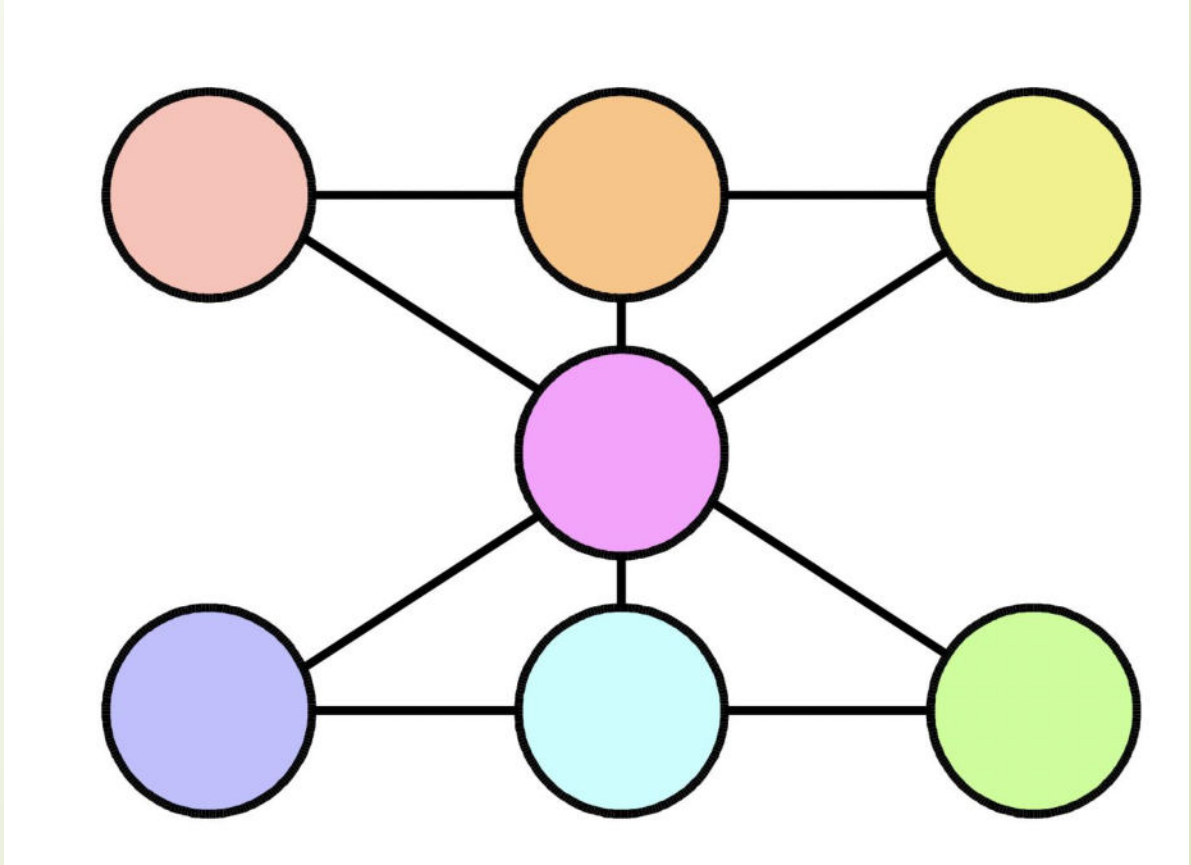
How many ways can you stack these four cubes?



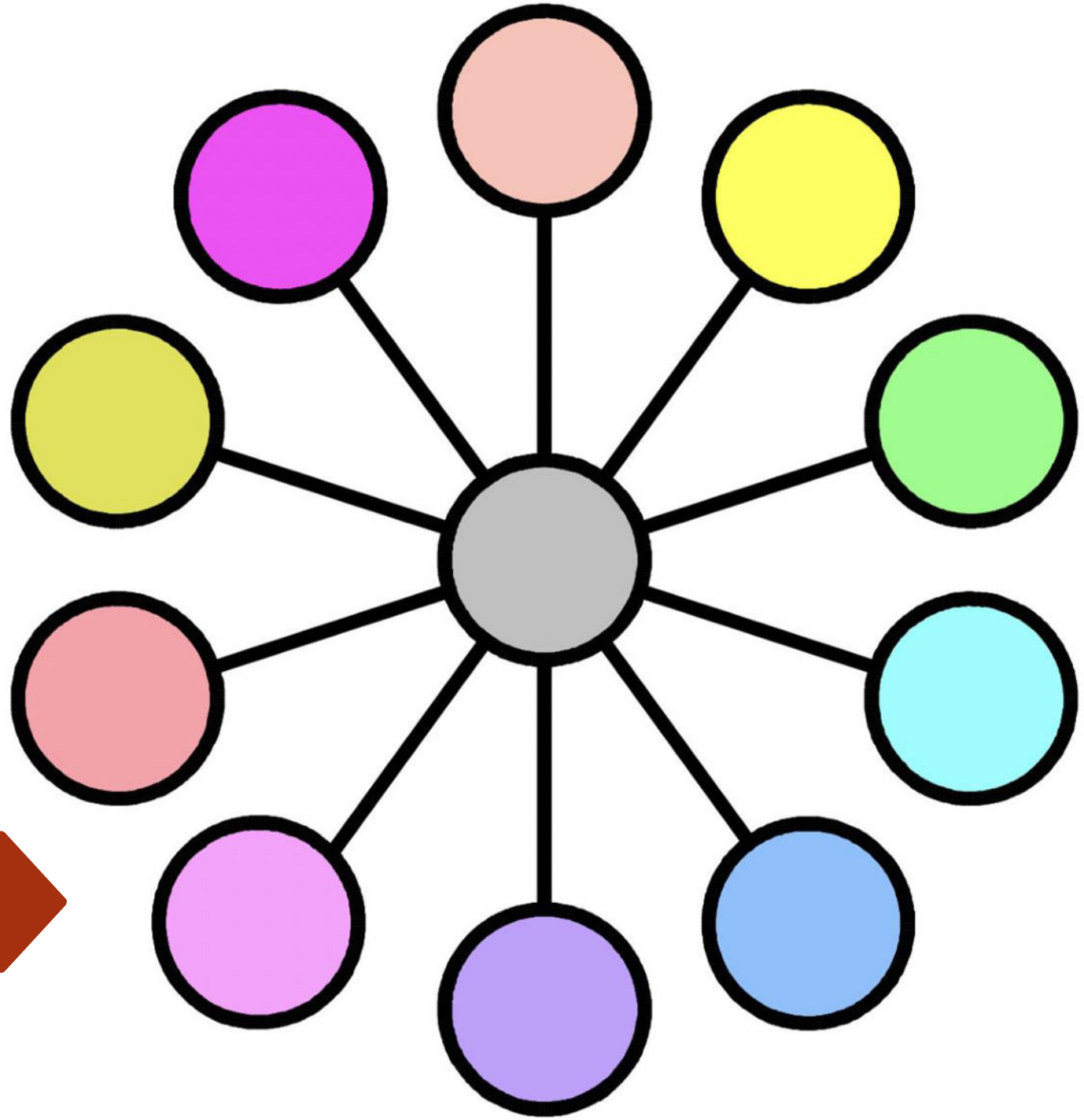
How many ways can you stack these five cubes?



Can you put the numbers 1 to 7 in each circle so that the total of every line is 12?

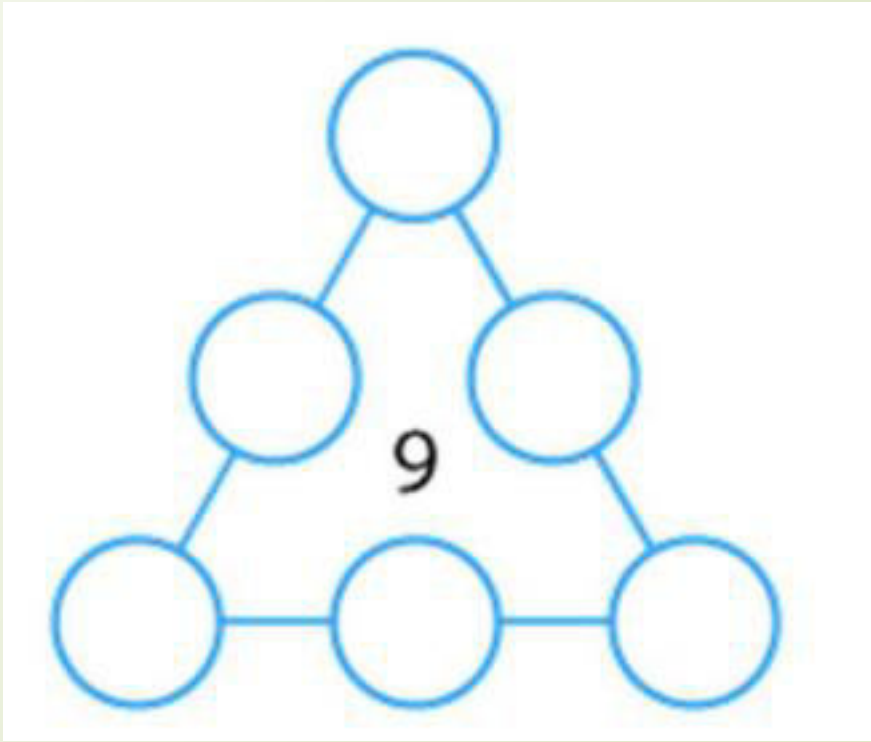


Can you put the digits 1 to 11 in the circles so that every line has the same total?



TRIANGLE PUZZLES

Arrange the numbers below into the triangle so the total of each side equals the number in the center of the triangle.



https://nrich.maths.org/188

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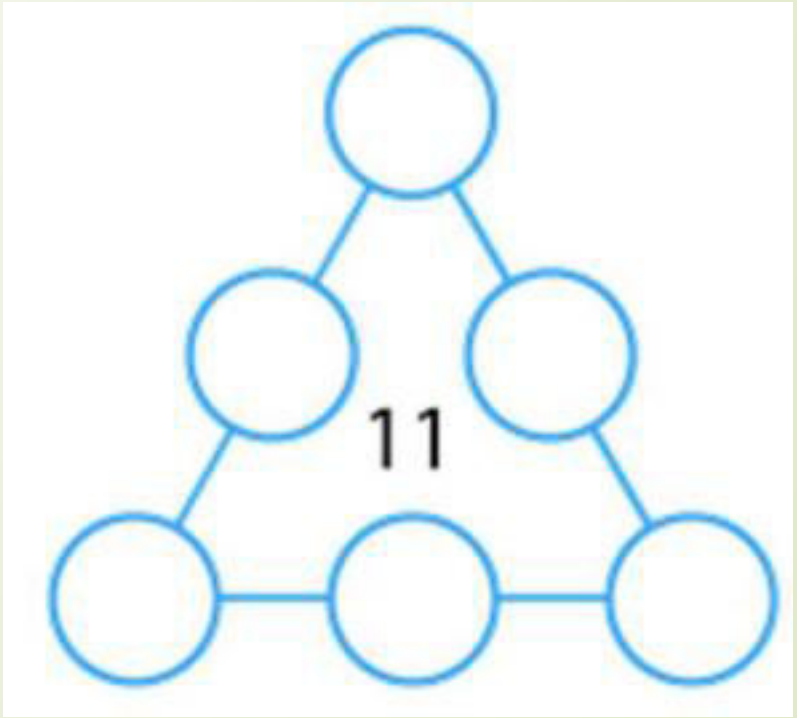

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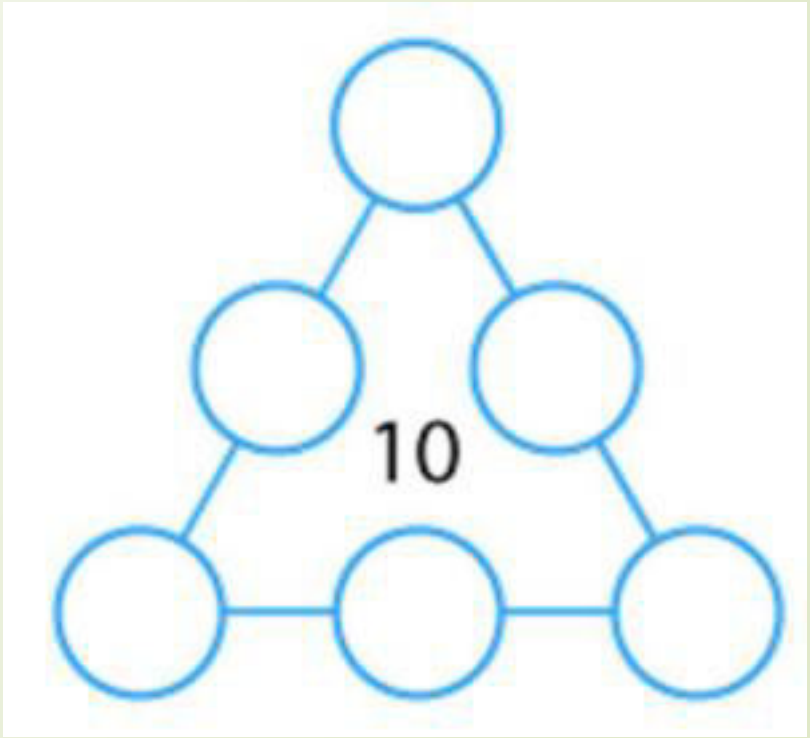

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Can you find every number between 1 and 20 using only 4s and any operation?

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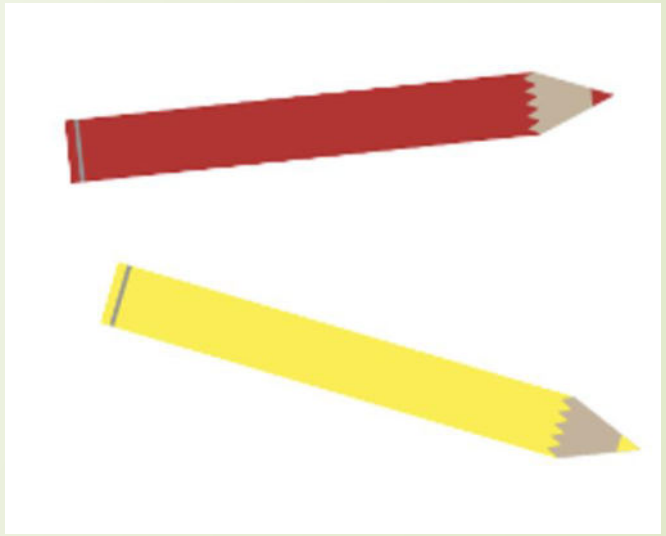
Leo the Rabbit is climbing up a flight of 10 steps. Leo can only hop up 1 or 2 steps each time he hops. He never hops down, only up. How many different ways can Leo hop up the flight of 10 steps?

K Lirenman

How many breakfast options?

K Lirenman



Challenge

5 stars?
6 stars?

How many two scoop cones can you make with 10 flavours?

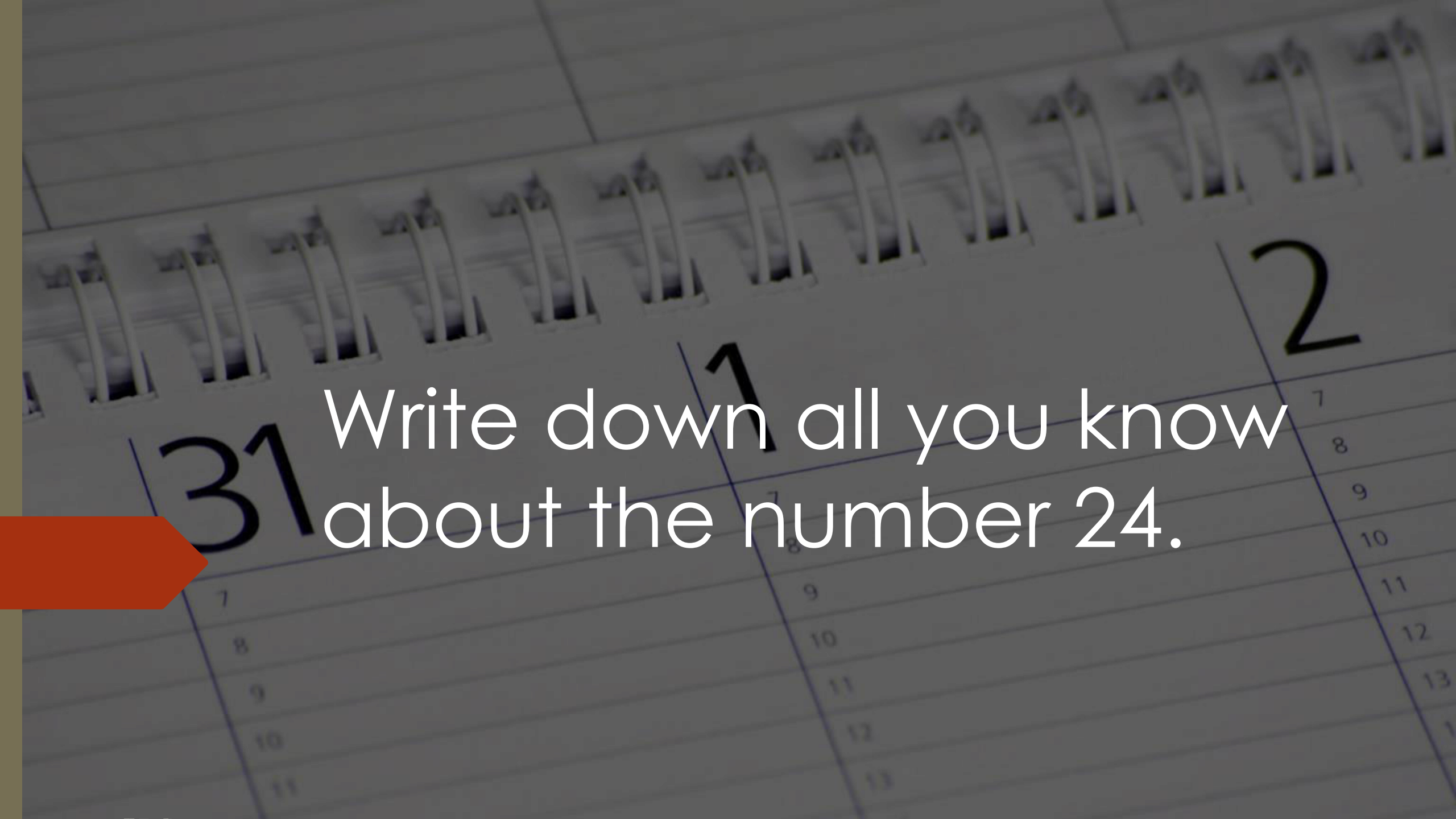
12? 15?

What if they were triple scoop cones?

A market sells five kinds of fruit. I want to buy ten pieces of fruit. What are some of the possible combinations? How many combinations are there?

26 Legs in Total

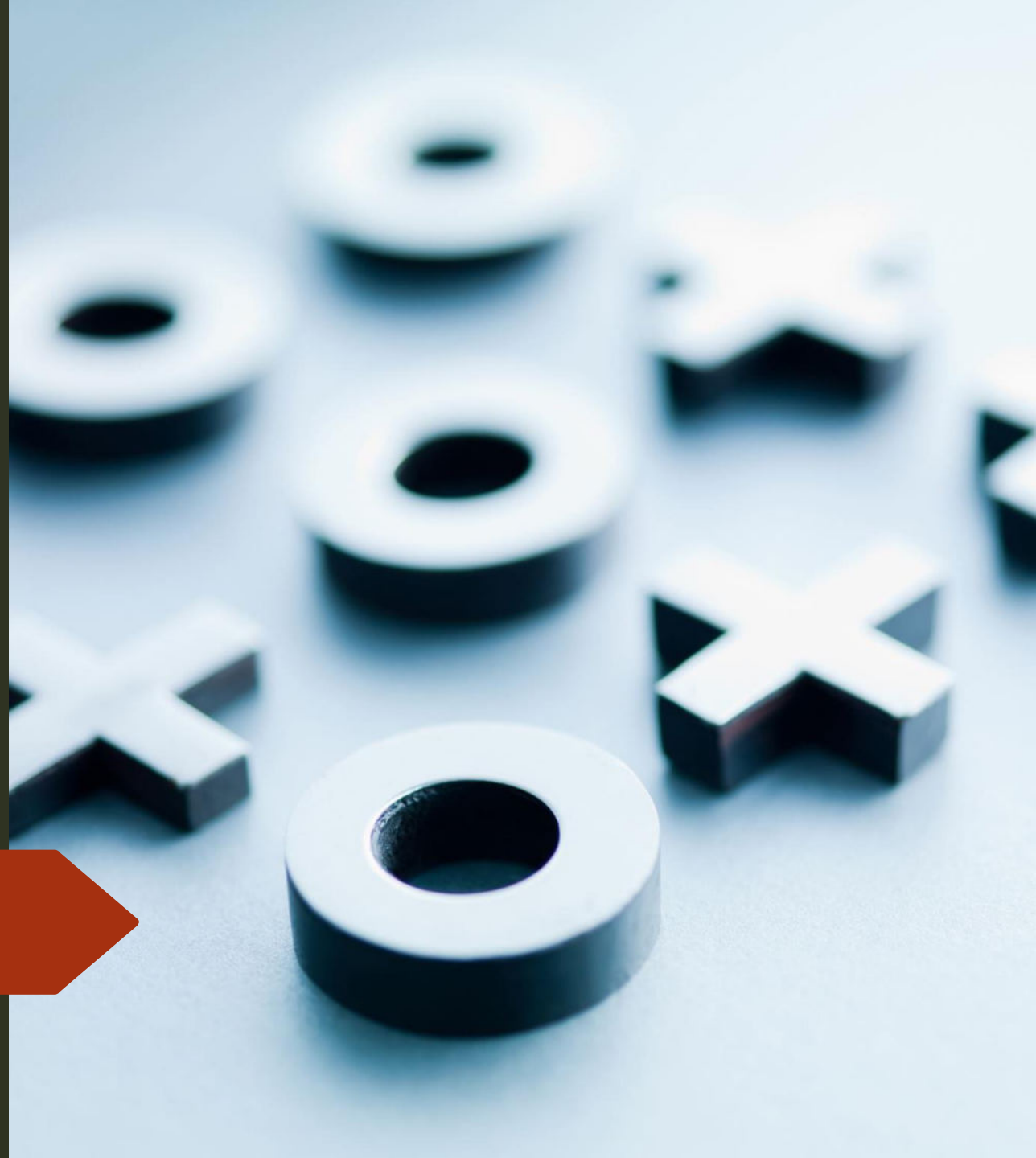
Number Sense Concepts


Write down all you know about the number 24.

Make up a song to help you skip count by twos.

Using all the digits in the number 4,359 what numbers can you create that are higher than this number? What numbers are smaller than this number?

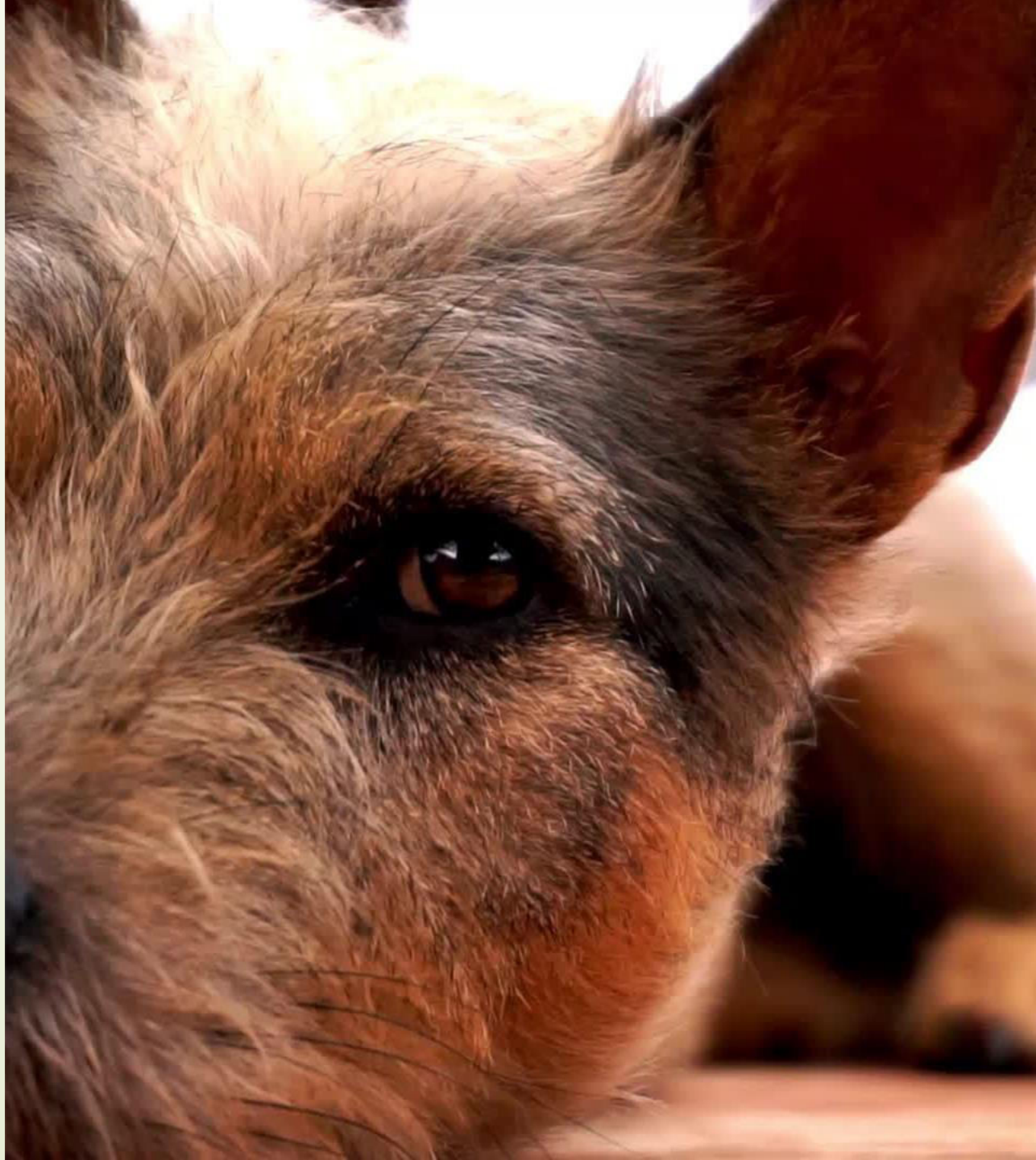
Give each letter of the alphabet a value (1-9 or 10, 20, 30…). How much does your name score? What can you find out about the value of the names in the room?



Mandy from mars gets confused when writing these numbers: 12, 21. How would you help her?

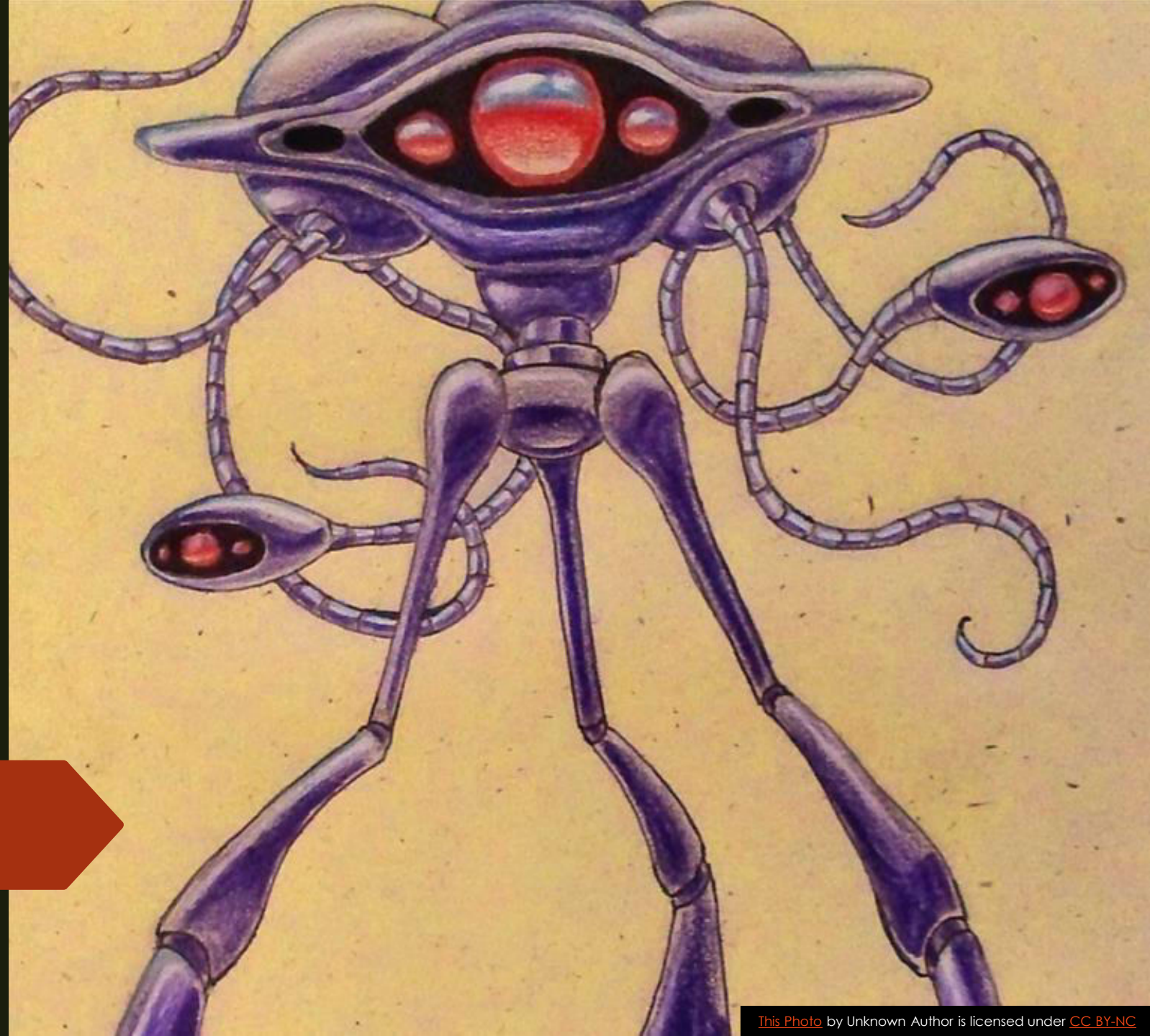
My mom is double my age. How old might I be?

My sister's dog is half as old as me. How old might I be and how old is my sister's dog?

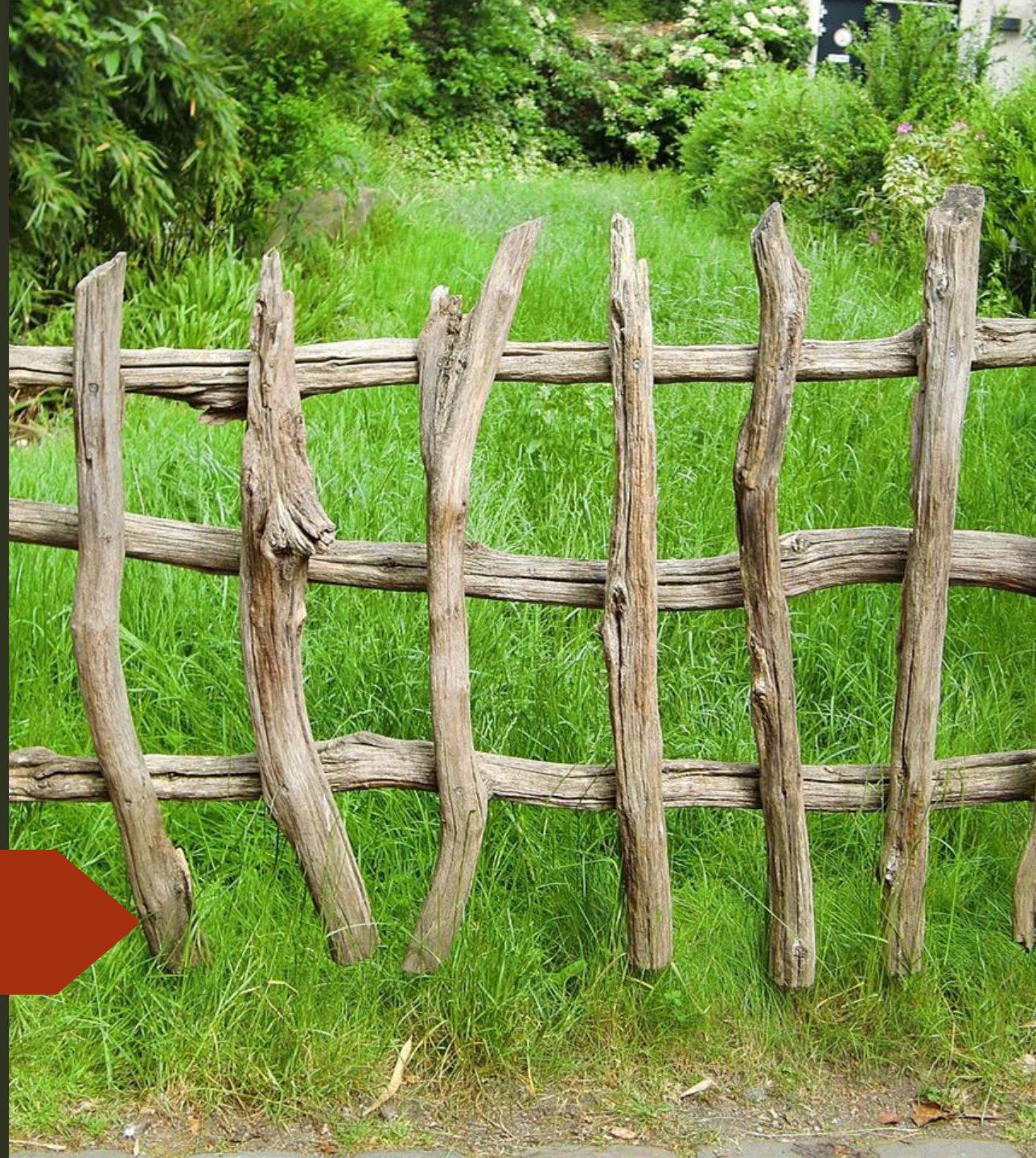


My dog is half as old as I am. My mom is double my age. How old might we each be?

Mandy from Mars has a friend from Saturn. He has 5 eyes, 6 arms, 3 legs, 18 fingers and lot of spots. What does he look like? What is his name? Create number sentences about him.



Five animals are standing behind a fence. How many legs can you see? Which animals are behind the fence?



I bought the numbers 6, 3, and 9 to put on my front door. What number could my house be? Choose 3 different numbers and try it again.

Write the last four digits of your telephone number. How many different numbers can you make with those four digits?

Biggest number?

Smallet number?

The difference between the two?

The sum of the two?

Choose any 3 or 4 digit number you like. Use pictures, numbers, objects and words to show your number as many different ways as you can.

How many different ways can you break apart 583 into ones, tens, and hundreds?

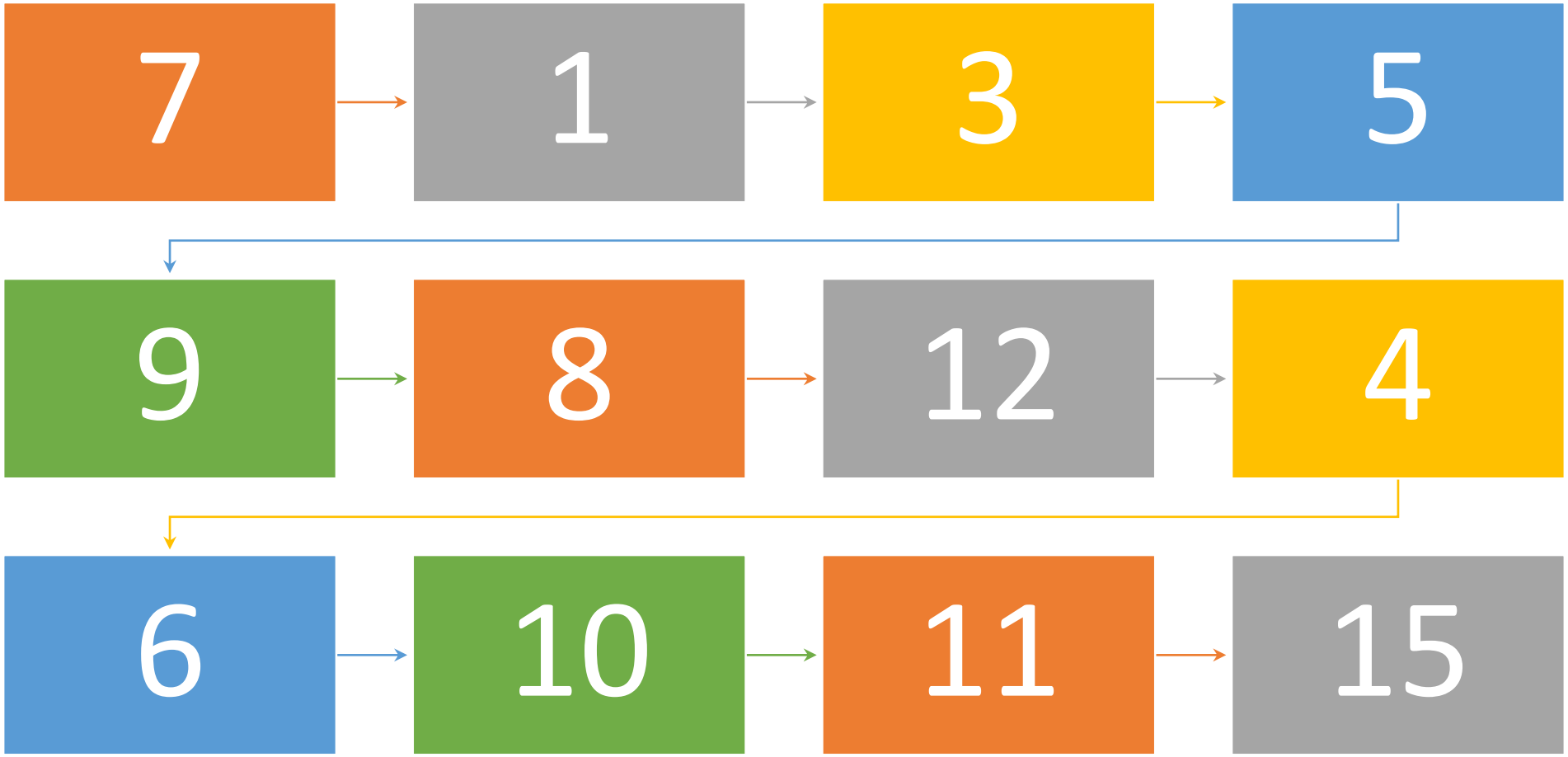
Number too big?

Try 83 instead.

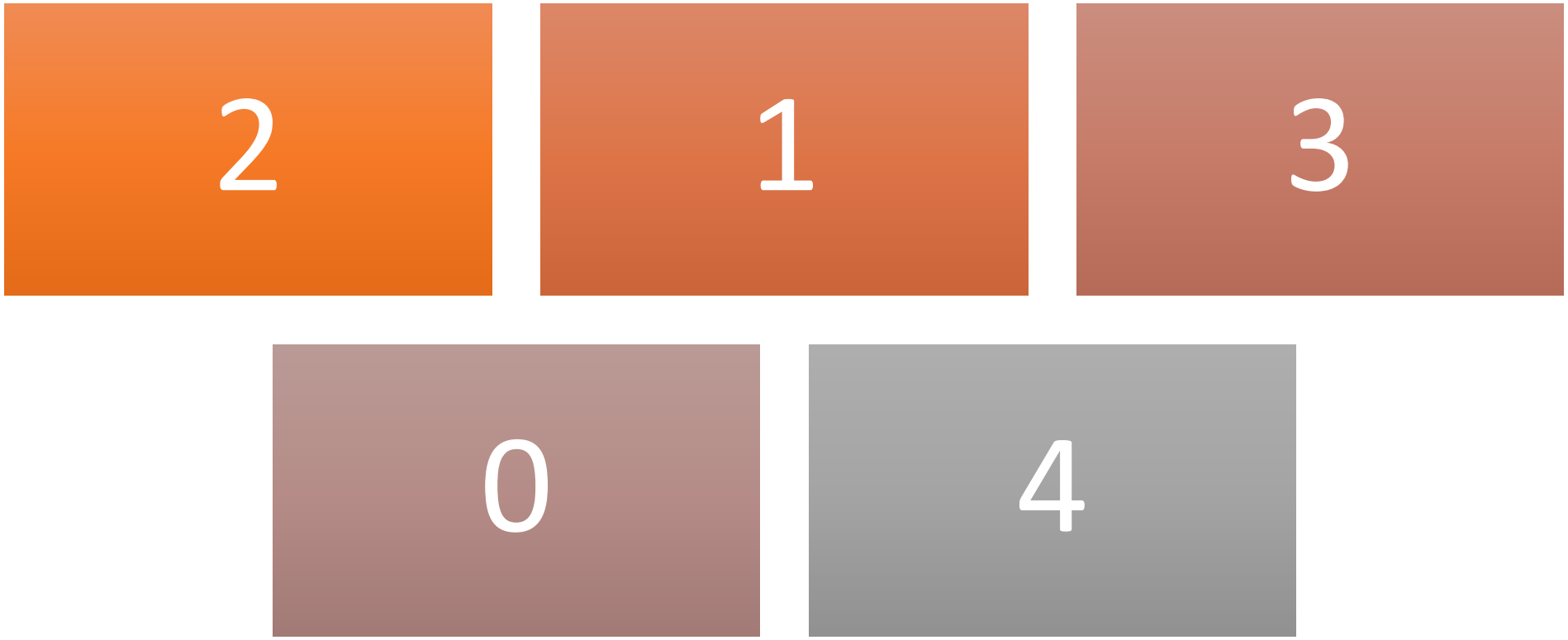
Find as many ways as you can to make exactly 100 using only the numbers below.

7	11	23	39
46	54	61	66
	82	92	

Find as many ways as you can to make exactly 20 using only the numbers below.

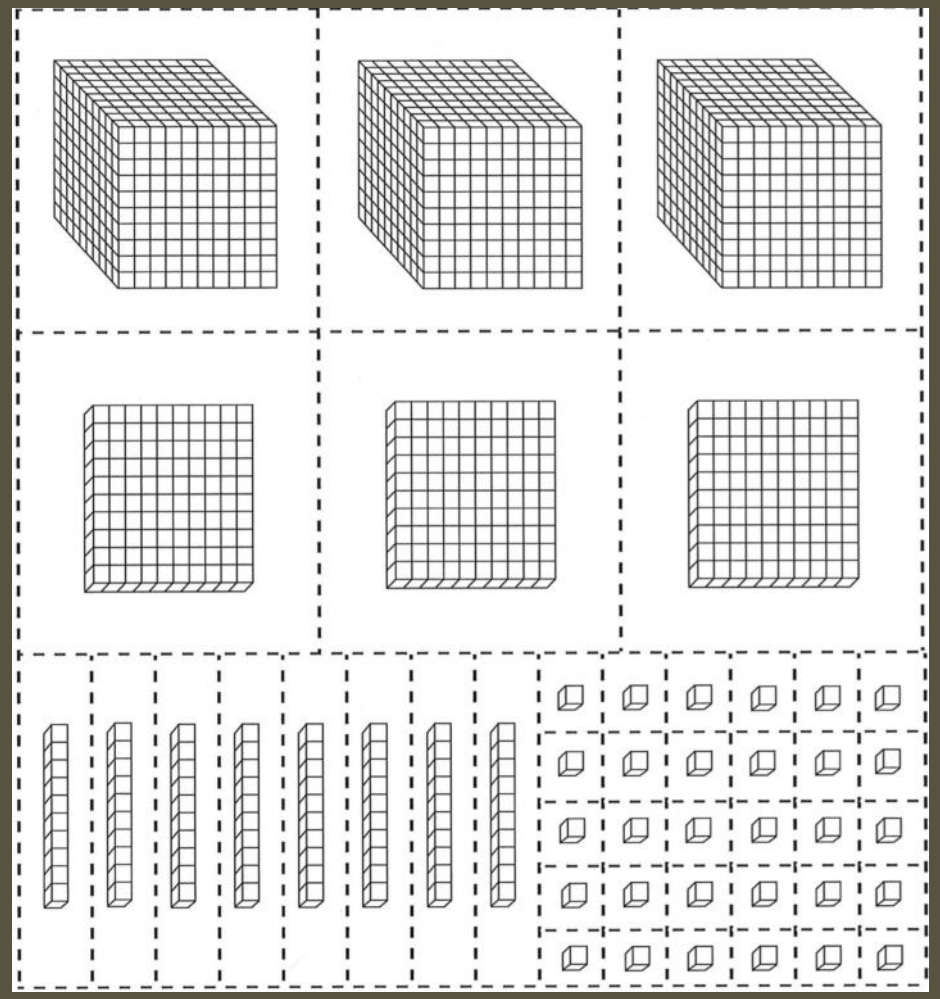


Find as many ways as you can to make exactly 5 using only the numbers below.



How many different ways can you break apart 769 in 1s, 10s, and 100s? Too hard, try 69.

A number can be shown with six base ten blocks. What might it be?



What is 100 more than your number?
What is 100 less than your number?

What is 1000 more than your number?
What is 1000 less than your number?

What is 10 more than your number?
What is 10 less than your number?

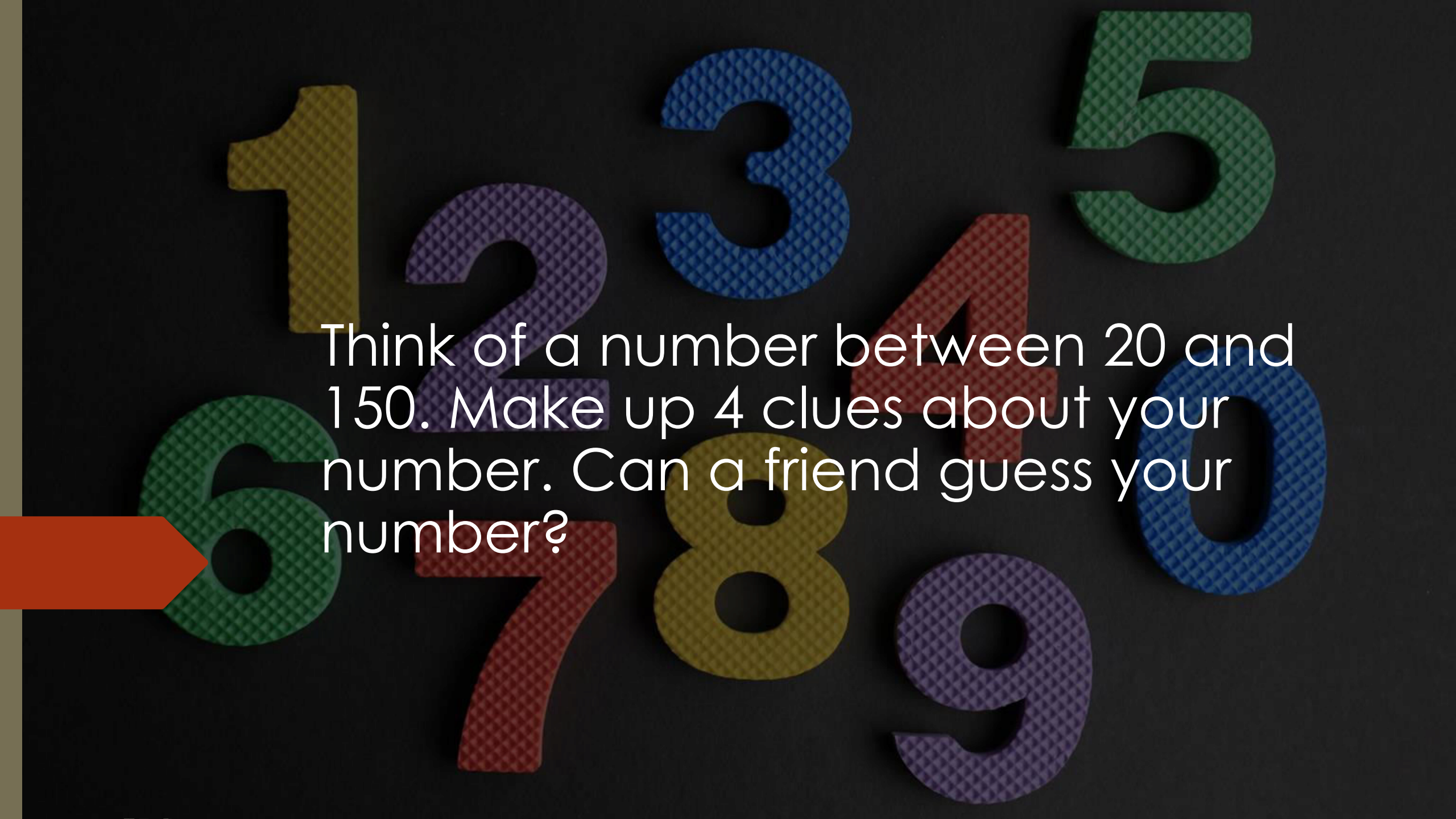
What is 1 more than your number?
What is 1 less than your number?

What is 30 more than your number?
What is 30 less than your number?

What is 700 more than your number?
What is 700 less than your number?

What is 2000 more than your number?
What is 2000 less than your number?

Change one number and explain what value you added or subtracted.



Think of a number between 20 and 150. Make up 4 clues about your number. Can a friend guess your number?

Bonus: Number on a Number Line

- Roll a ten-sided die 2, 3, or 4 times and write the numbers on a white board.
- Create 2- 3- or 4-digit numbers from the numbers you rolled.
- Add your numbers to a number line
- Repeat until your number lines are full (or continue and add more numbers to each number line)

How do you know these numbers are equal?

5 hundreds, 6 tens, and 4 ones

4 hundreds, 15 tens, and 14 ones

I'm a four-digit number, the sum of the digits is 10. All the digits are different. What is the largest such four-digit number?

Packaging Soup Cans

There are 202 soup cans in the factory. A crate will hold 200 cans. A case will hold 20 cans. The rest of the cans go into individual boxes. The factory wants to use as few packages as possible.

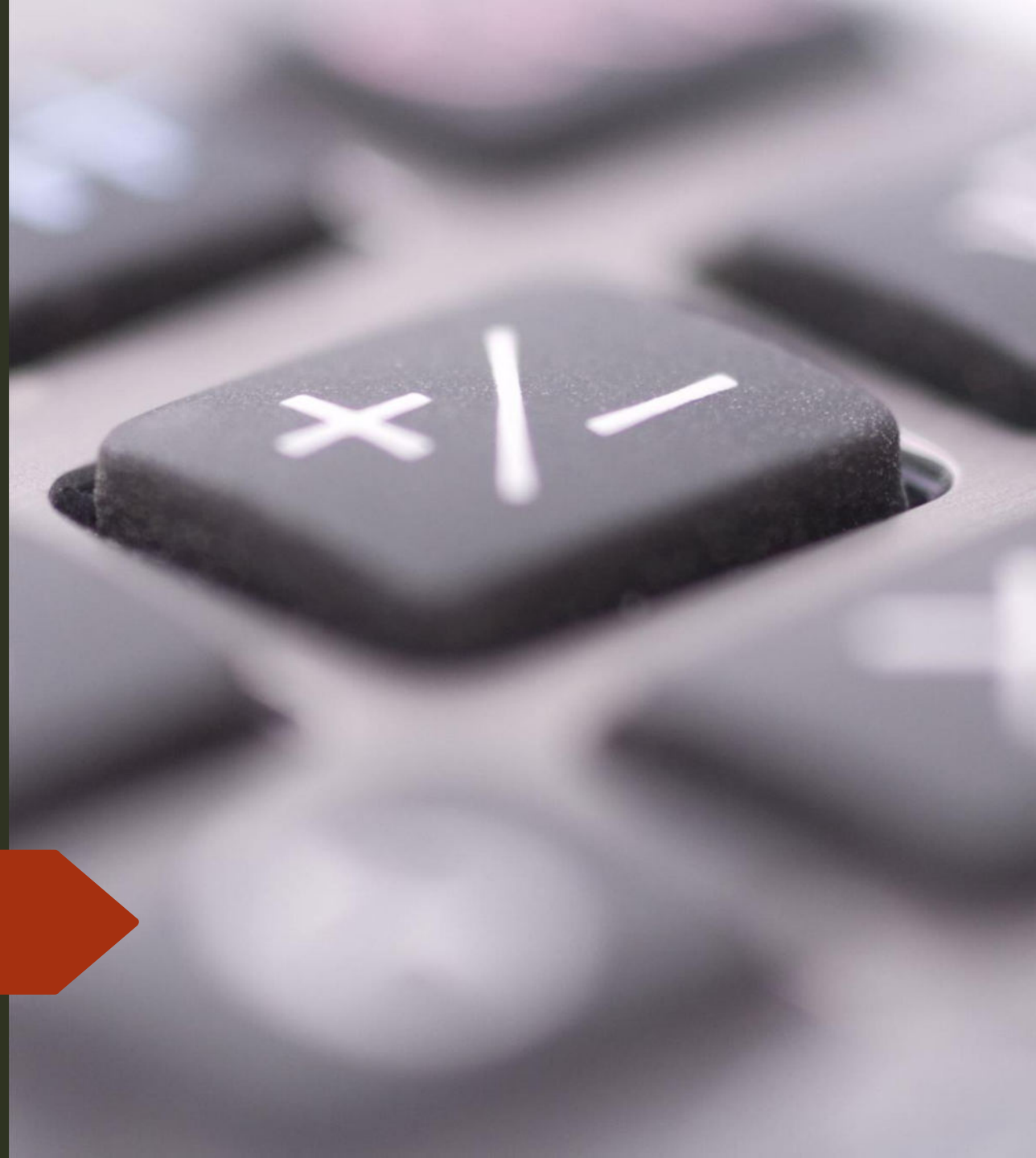
How many crates, cases and individual boxes do you need?

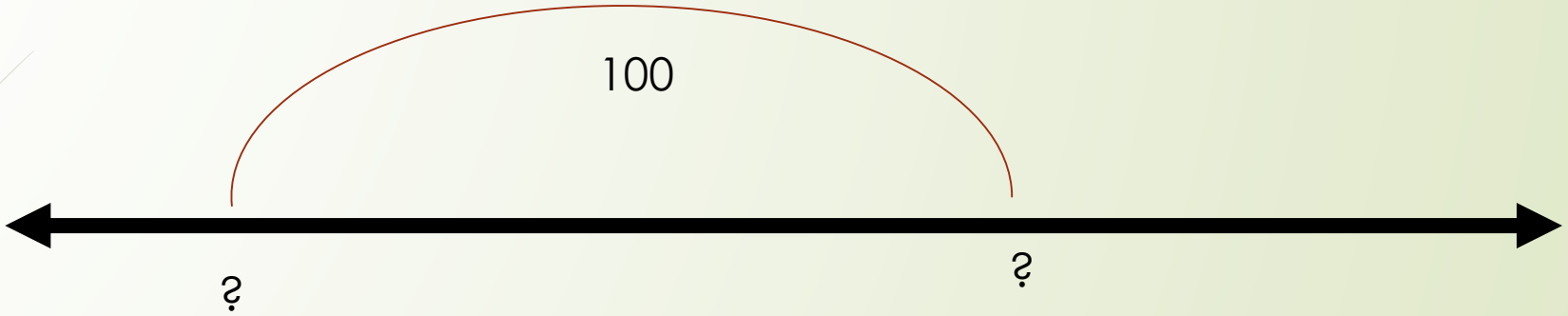
If you only had cases and individual boxes, how many of each would you need?

If you only had individual boxes, how many would you need?

Addition and Subtraction Curricular Tasks

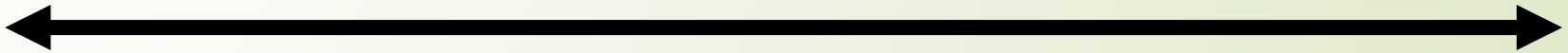
What is easier: addition or subtractions? Why?



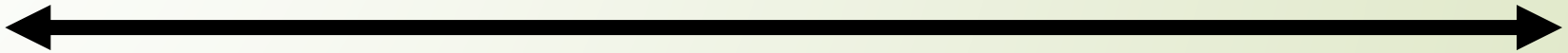


What might the two missing numbers be? How do you know? What else could they be?

Challenge: What if it said 10 or 1000 or 10,000 instead?



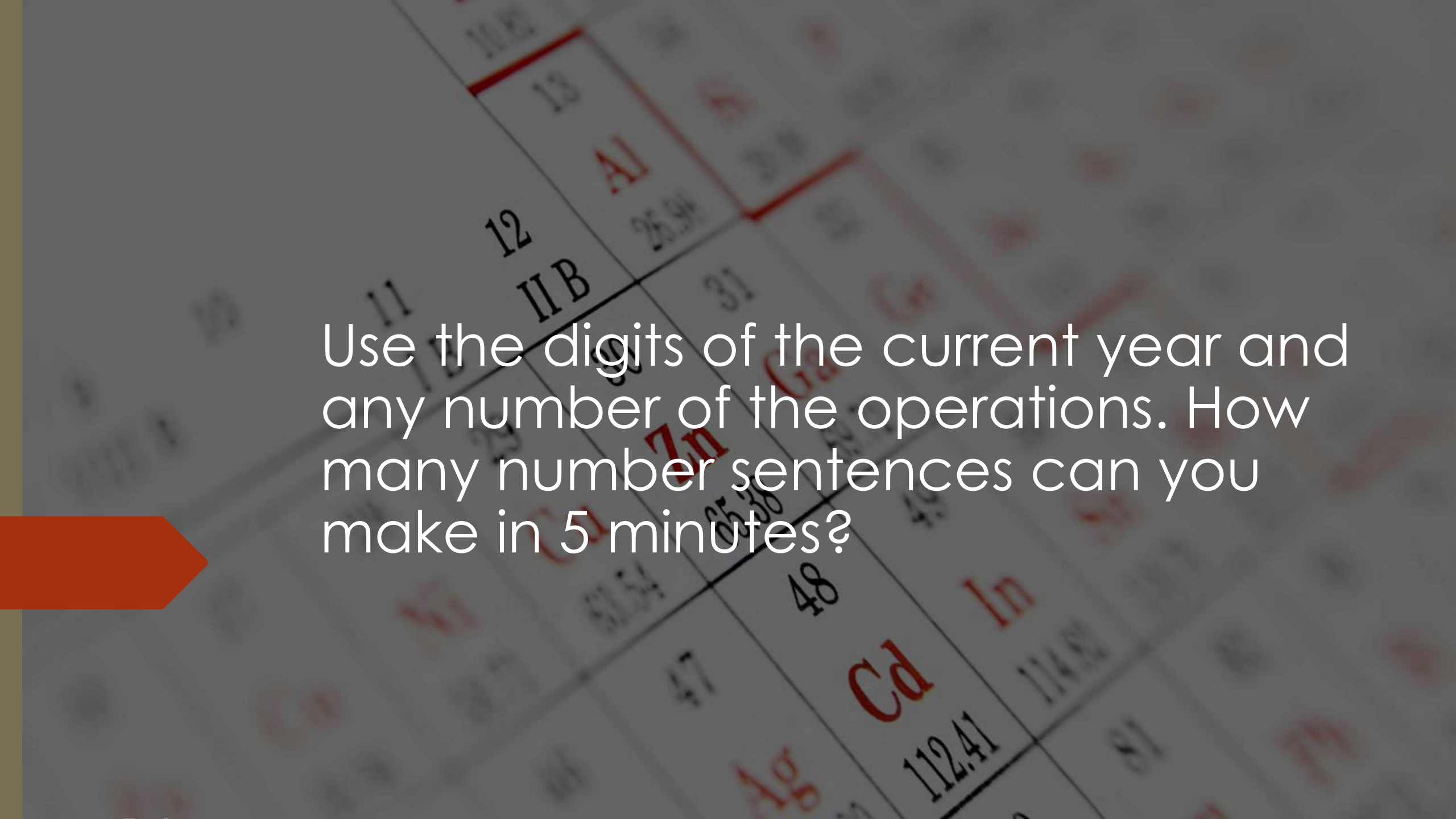
Show how you get from one number to the next using the fewest possible open “hops” of 1, 5, 10, 100. or 1000.



Show how you get from one number to the next using the fewest possible open “hops” of 1, 5, 10, 100. or 1000.

Rank these problems from hardest to easiest. Be able to explain your reason to others.

10-4	100-40	57 + 3
9+2+18-10	1000 + 1000	14+ 26



Use the digits of the current year and any number of the operations. How many number sentences can you make in 5 minutes?

WHAT COULD THE NUMBERS BE?

WHAT ELSE COULD THEY BE?

HOW MANY WAYS CAN YOU FIND?

The difference between 2 numbers is 5.

The difference between 2 numbers is 10.

What could the numbers be?

What else could they be?

How many ways can you find?

The difference between 2 numbers is 13.

What could the numbers be?

What else could they be?

How many ways can you find?

The difference between 2 odd numbers is 22.

What could the numbers be?

What else could they be?

How many ways can you find?

The answer is 35. What could the question be?

The number 16 is halfway between two numbers. What might these two numbers be?

How many different ways can you make 15?

I am thinking of a number where the digits go odd, even, odd, even, etc. When I add all the digits together, the total is 25. What could my number be?

What might be in the blank spaces?

__ +__ + __ = 21

What strategies can help you find the most answers?

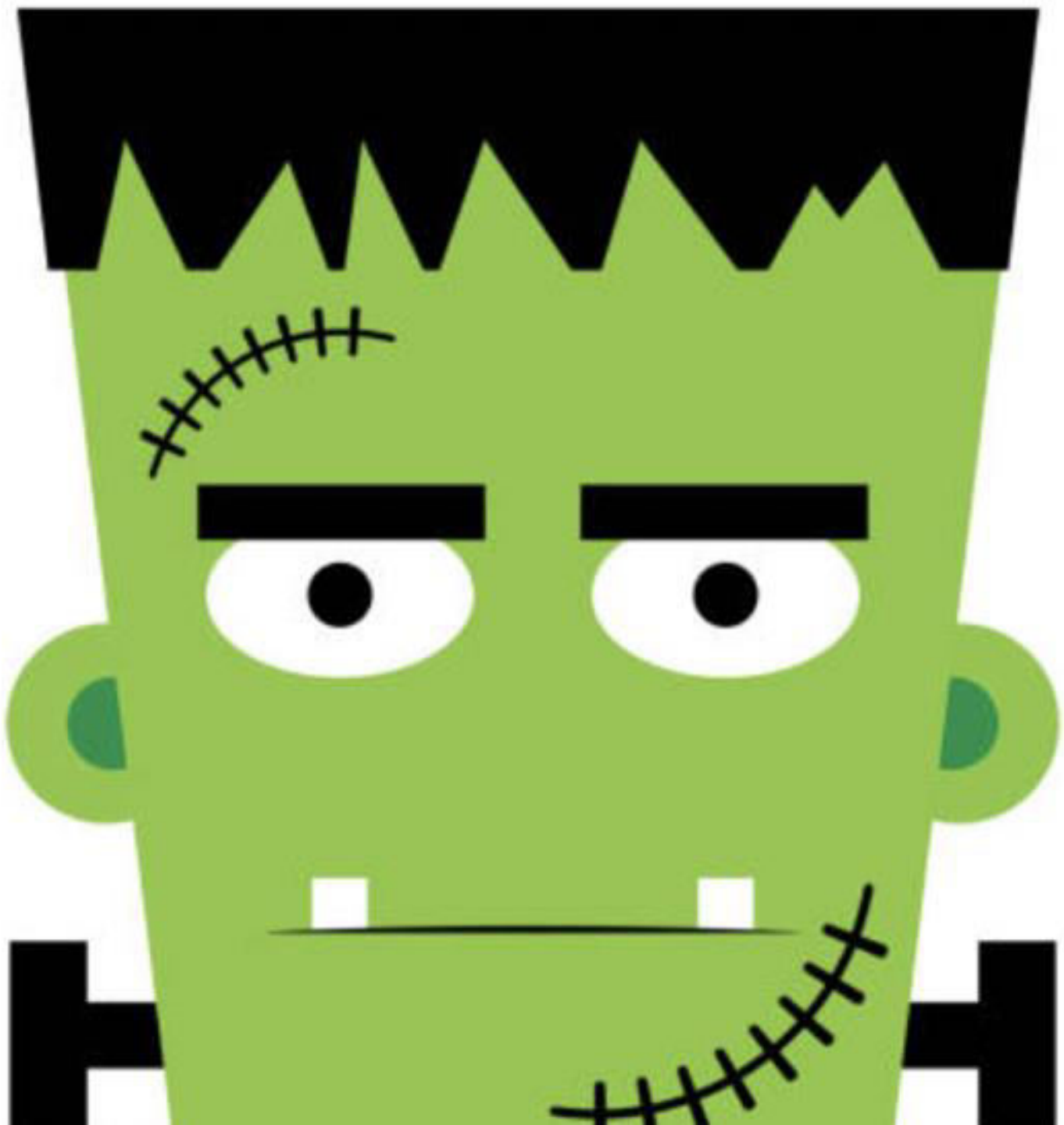
What might be in the blank spaces?

18 = __ +__ + __
or
__ +__ + __ = 18

How many answers can you find?

What might the missing numbers be?

Frankenstein visits the Awesome Eights. He brings Aerobars, Coffee Crisps, and Smarties. He brings 42 candies in all. What combination of chocolate bars might he have brought?



If you won a prize that was paid out over twelve months at $1000 month one, $2000 month two, $4000 month three, etc (each month double the last) what would your total prize package be? How would you spend it?


Patterns

What patterns can you make with 8 or fewer colours?

Start at any number and create a skip counting pattern.

What growing patterns can you create?

Can you explain your pattern rule?

Tom receives $5 a week for allowance, and he saves it each week. How much money will he have in ten weeks?

Weeks	1	2	3	4	5	10
Allowance	5	10				?

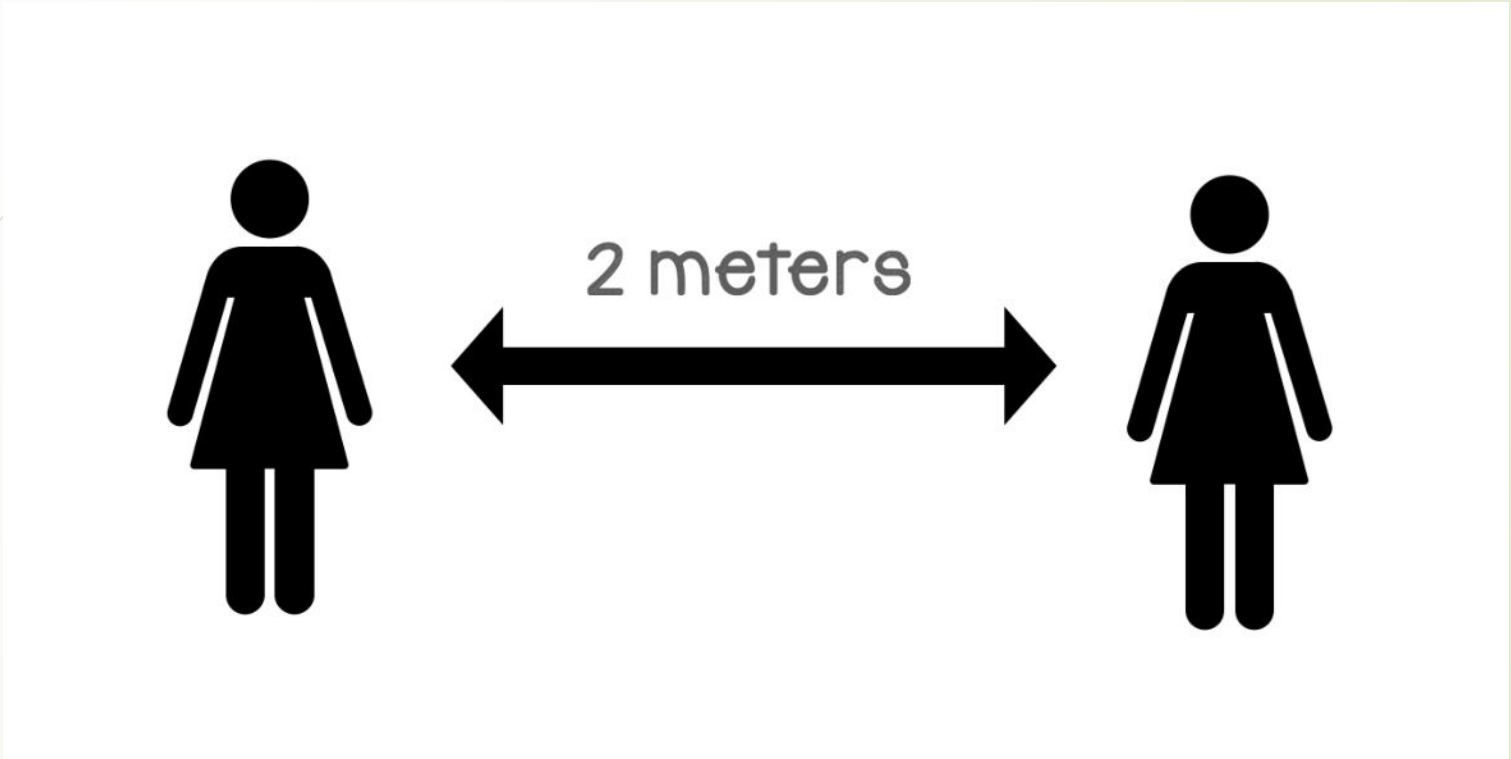
A flower has 7 petals. How many petals will 9 flowers have?

Flowers	1	2	3	4	5	9
Number of Pedals	7	14				?

A shirt has 4 buttons. How many buttons will be on 12 shirts?

Shirts	1	2	3	4	5	12
Number of Buttons	4	8				?

Measurement



How long is two meters?

Get a piece of string.
Without measuring it cut one metre.

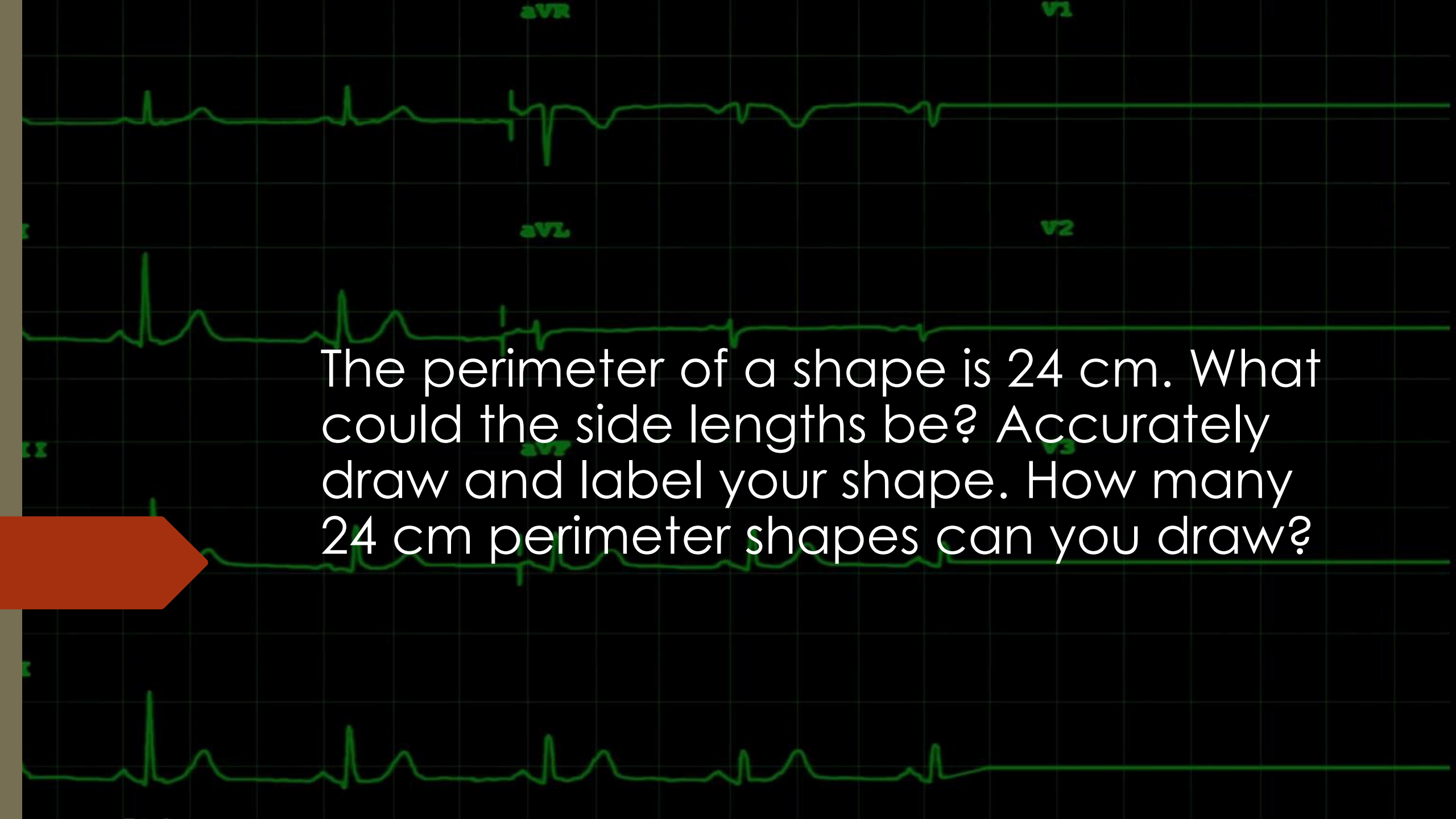
Without using a ruler draw a line that is as close to 10 cm as you can. Measure to see how well you did.

Now try to draw a line that is as close to 15 cm as you can.

Finally challenge your partner to draw a line that is between 2 and 28 cm. Repeat until you are out of time.

The perimeter of a triangle is 18 cm. What could the side lengths be? How many ways can you find?

You are building a rectangular garden. You have 40 meters of fencing. How many different ways can you build a rectangular garden with this amount of fencing?



The perimeter of a shape is 24 cm. What could the side lengths be? Accurately draw and label your shape. How many 24 cm perimeter shapes can you draw?

Roll a dice. These are the tens. Roll it again. These are the ones. This is the perimeter of your shape.

What shape can you draw with the perimeter you rolled?

Timing is everything.

What do you think will take less time?

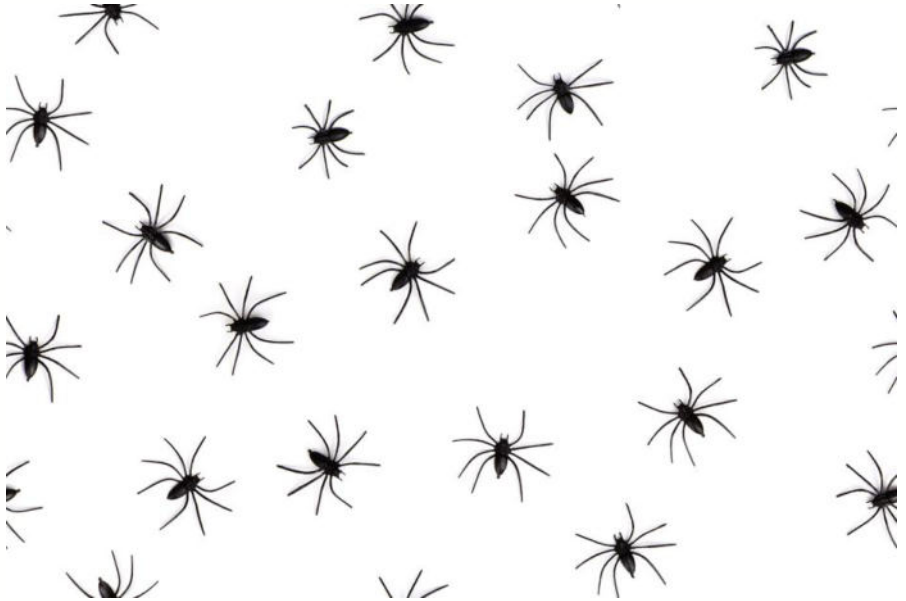
Skip counting by 5's to 100 or saying the alphabet backwards?

Writing your name 10 times or saying the alphabet backwards?

Skip counting by 5s to 100 or saying the alphabet backwards?

Skip counting backwards by 2's from 40 to 0 or saying the alphabet backwards

Multiplication



10 dogs or 5 spiders

Which is more?

1 bouquet= 12 roses

1 box of chocolates= 24 chocolates

- 3 bouquets or 2 chocolate boxes
- 9 bouquets or 5 chocolate boxes
- 32 bouquets or 22 chocolate boxes

5 cars or 7 tricycles?

Which is more?

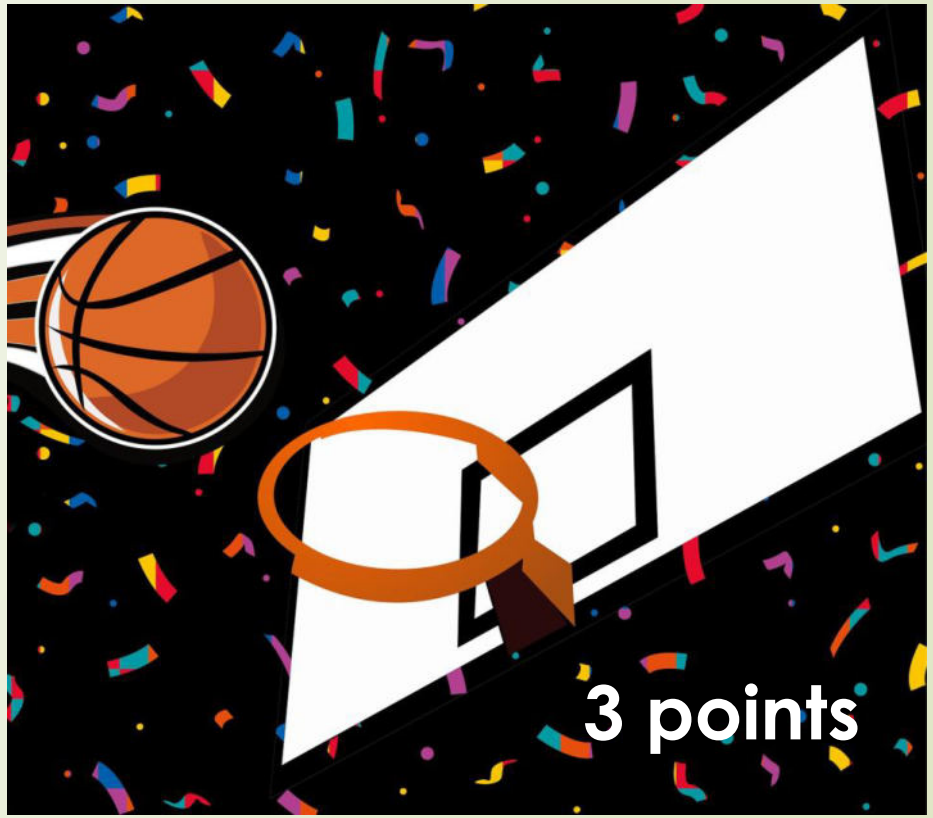
- 8 bicycles or 5 tricycles
- 14 bicycles or 9 tricycles
- 32 bicycles or 22 tricycles

One pack of gum has 12 pieces.

How many packs of gum do you need for…

- 36 pieces?
- 60 pieces?
- 120 pieces?
- 156 pieces?
- 240 pieces?

Division



What baskets might he have scored to earn 37 points?

19 bicycles and tricycles in the shop. How many wheels?

19 bicycles and tricycles in the shop. 45 wheels in total

How many cars can you make?

- 20 wheels
- 36 wheels
- 68 wheels

How many cars can you make?

20 wheels

36 wheels

68 wheels

92 wheels

132 wheels

Sharing Apples

- 2 people
- 3 people
- 24 people
- 36 people

The answer to a division question is 4. What could the question be?

The answer to a division question is 6. What might the question be? Write it as a number sentence and as a worded problem.

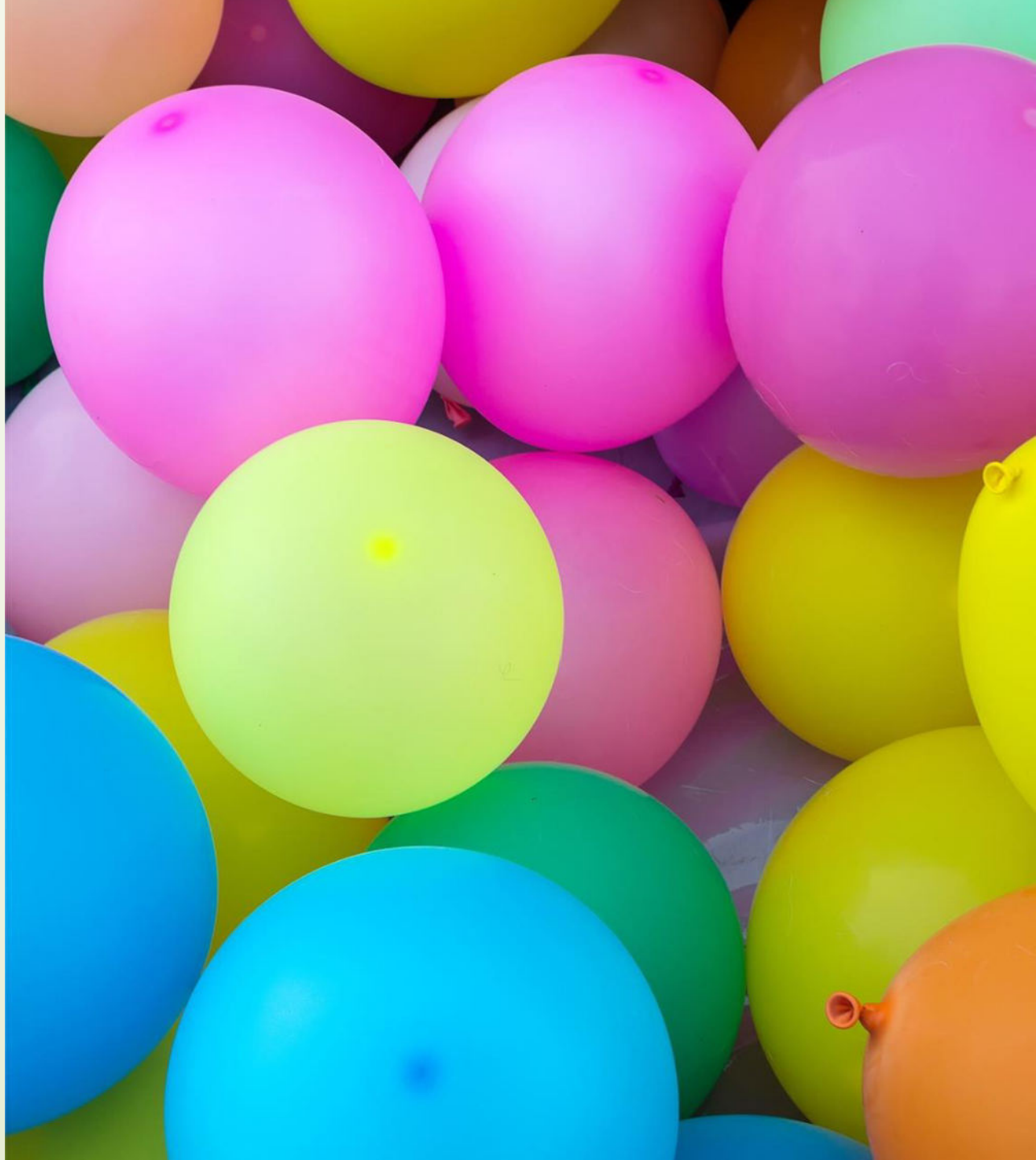
One pack of gum has 12 pieces.

How many packs of gum do you need for…

36 pieces?
60 pieces?
120 pieces?
156 pieces?
240 pieces?

A farmer has 60 apples. He wants to put the same amount of apples in each basket. How might he do this?

14 balloons shared equally with 4 friends



Seats 3

Seats 6

- 12 people at the party.
- 24 people at the party.
- 36 people at the party.
- 48 people at the party.

Groups of	Pennies left over
2	1
3	1
5	1
6	1
7	2

Groups of	Pennies left over
2	1
3	1
5	1
6	1
7	0

__ child(ren) got/get onto a bus. In each hand, they have __ animal carrier bag(s). In each bag there is/are __ cat(s). Each cat has __ kitten(s).

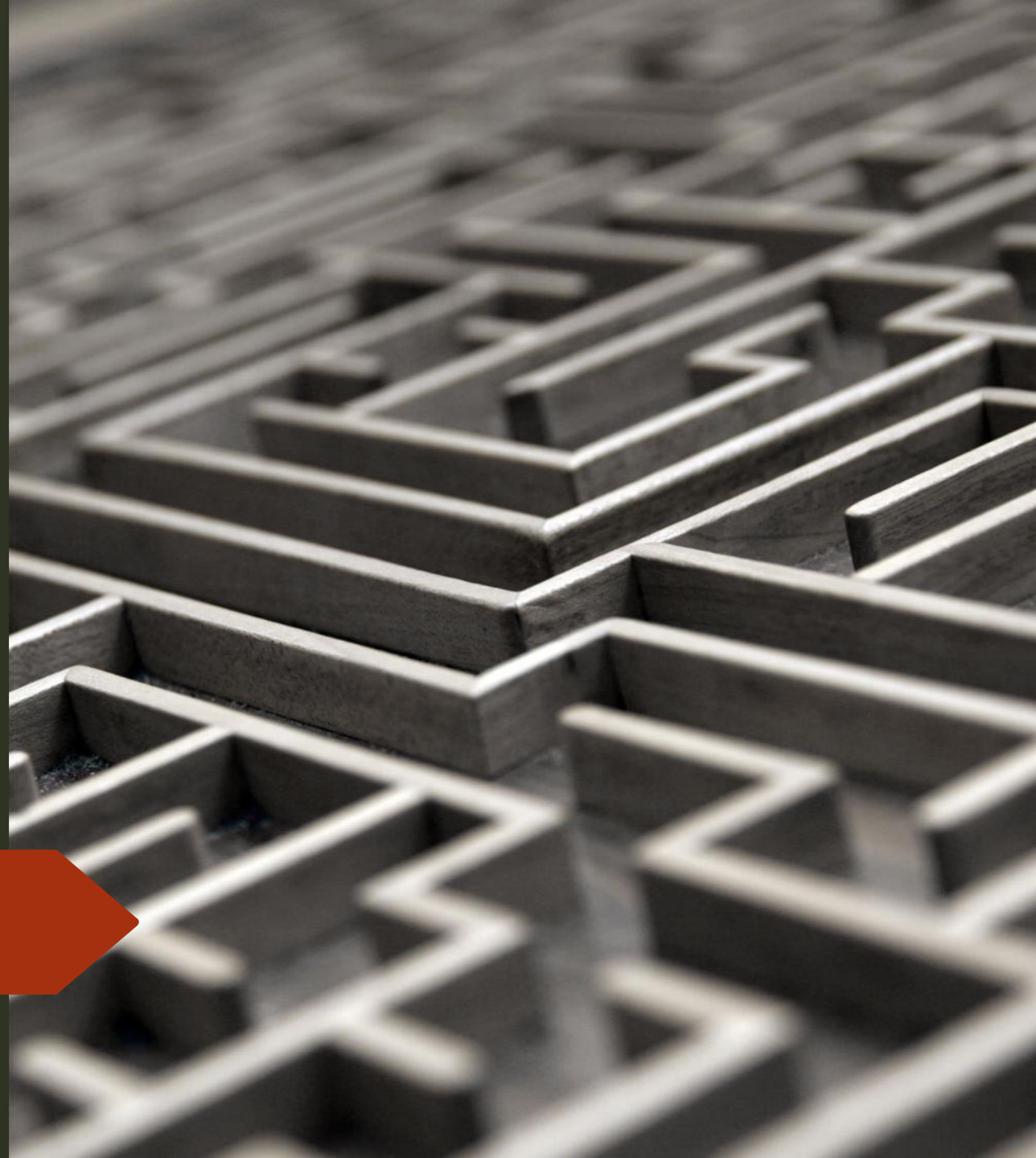
How many legs are on the bus?

- ● __ = 1
- ■ __ = 2
- ◆ __ = 3

Geometry

I drew a shape with four sides. What might my shape have looked like?

I made a picture using only circles and squares. What might my picture have looked like?



In my hand I have an object that is able to roll. What might it be?

I can see a box – shaped object in this room. What object can I see?

In a bag I can feel that an object has flat faces, sharp corners, and straight edges. What might this object be?

I traced around one of the faces of an object. The shape I drew was a circle. What might the object have been?

Sara used three rolling shapes, four boxes, and one cone to build something. What did she build and what might her construction look like?

Using these 12 squares, how many rectangles can you make?

Challenges: What is the area of each rectangle you've made? Area = a
What is the multiplication and division questions related to each rectangle.
What is the perimeter of each rectangle you make? Perimeter = p

Fractions

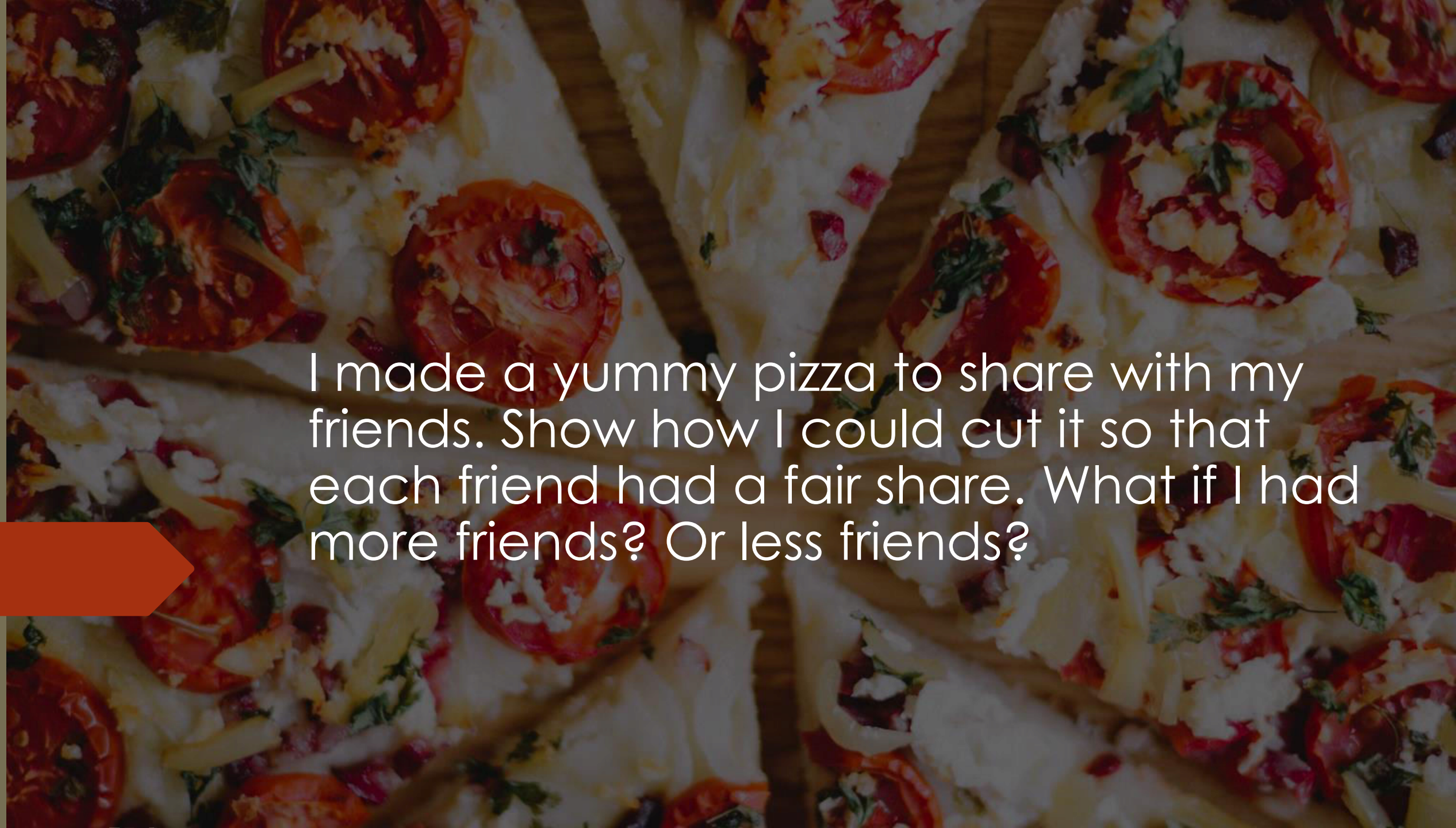
I have a handful of jelly beans. One half of them are yellow. What does my handful of jelly beans look like?

You see a sign in a shop window that reads 1/2 OFF SALE. What does this mean to you?

Half of the people in a family are males. What might a drawing of the family look like?

Draw a shape. Show how to cut the shape into two halves.

We want to paint the top half of the room. How could we find out where the halfway mark is?



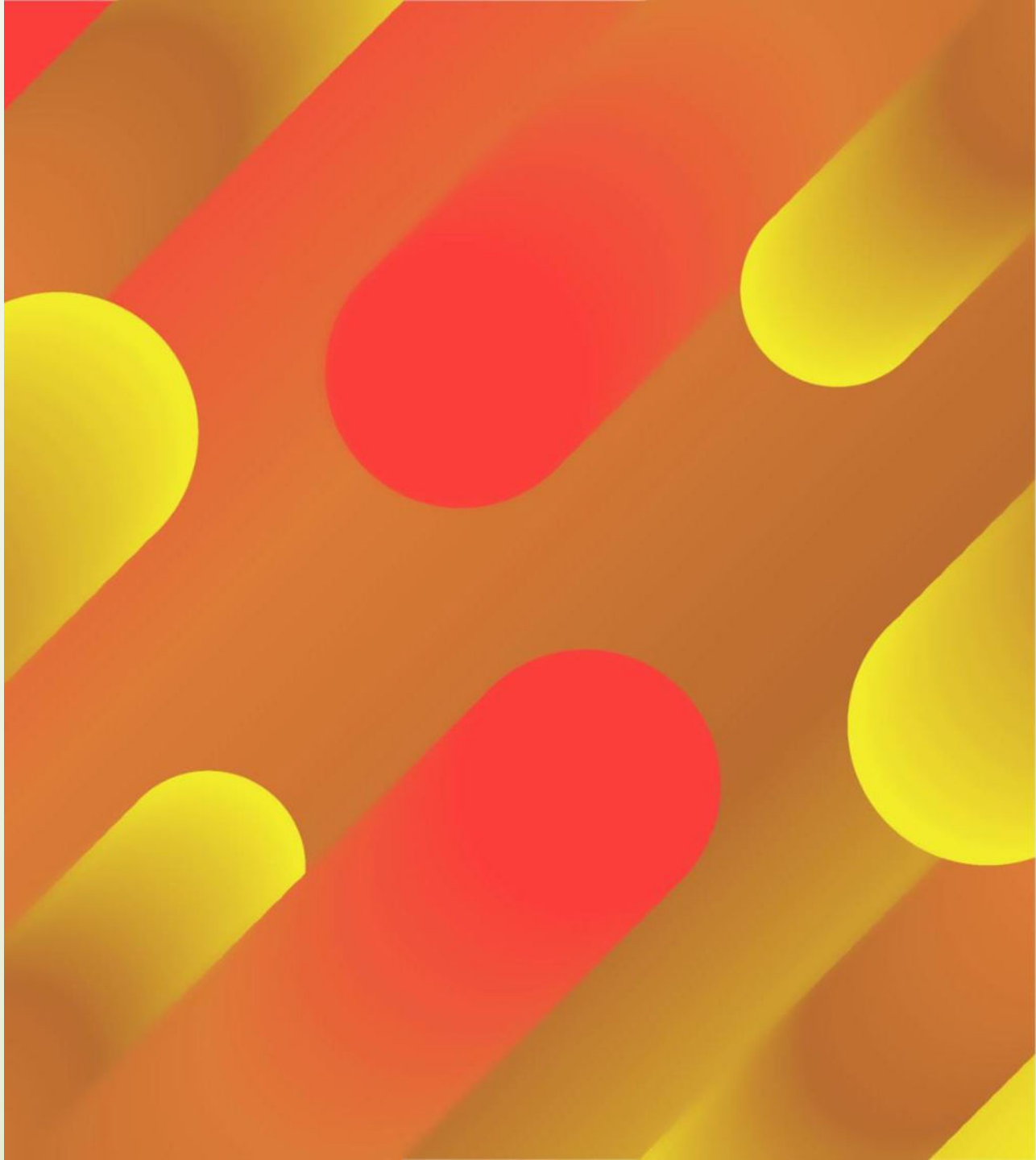
I made a yummy pizza to share with my friends. Show how I could cut it so that each friend had a fair share. What if I had more friends? Or less friends?

What do you know and what can you find out about 1/4? Record it on a paper or show it with materials.

What is the fraction for each coin in the piggy bank?

5 nickles
7 dimes
4 quarters
3 loonies
2 toonies

How many different designs can you make that are 3/4 red and 1/4 yellow?



One-third of a class orders fun lunch. How many students is that? What if there were 27 children in the class? Or 30? Or 36?

My aunt said that when she was half her age she could touch her toes. How old might she be now and how old was she when she could touch her toes?

I picked up a handful of M&M's. One-third of them were red. What might a drawing of the M&M's look like?

Money

List everything you know about money.

How many ways can you make 20 cents?

How many ways can you make 50 cents?

In my pocket I have 75 cents. What coins might I have?

The price tag on a toy car is $2.75. What coins would I use to pay for this?

Ms. Lirenman's lunch order costs $3.75. What coins could she use to pay for her lunch?

I have exactly $100 in bills in my pocket. What bills might I have?

I have five coins in my pocket. Two coins are the same. How much could I have?

I have $3.45 in my pocket. How many different combinations of coins could I have?

Chance and Probability

Our class wrote down some things that we felt were impossible. What might we have written?

Ms. Lirenman's class was talking to her and asked her a question. Her reply was, " It is more likely than unlikely." What might the question be?

Two children were playing a dice game. One child tossed two dice together and when they landed one was a 6 and one was a 4. What other number combinations might the child have tossed?