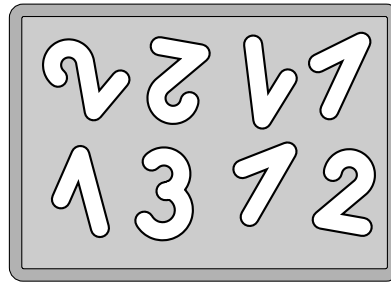


1

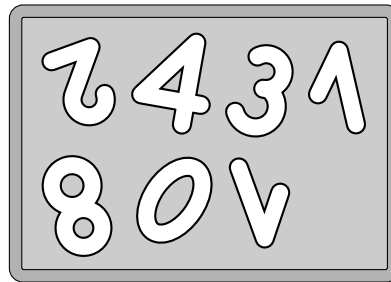
Christmas baking

Mia and Ole want to bake cookies. They found cookie cutters for the numbers 0 to 9 in the cupboard. They roll out the dough and cut out cookies. Each of the two children fills their own baking tray with cookie numbers.

Ole has finished covering his baking tray:



On Mia's baking tray, there is still one cookie number missing on the bottom right:



“Look,” says Ole, “if I multiply all my numbers together, I get a beautiful number as result.”

Mia thinks, “When I do the same, I always get 0. But when I add all my numbers together, I could get the same result. For the missing cookie number, I just have to cut out the correct number.”

Which number does Mia have to cut out last?

(G) 1

(E) 2

(A) 4

(P) 5

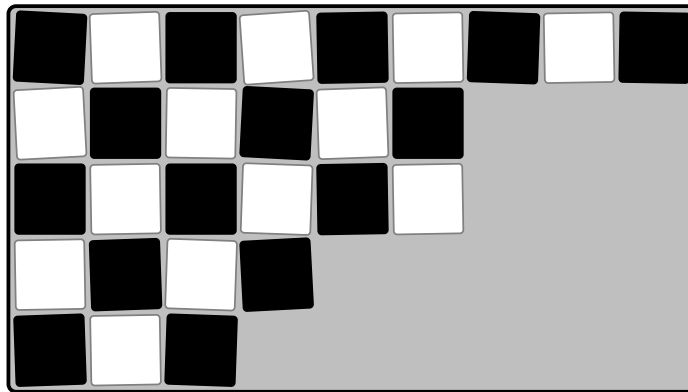
(L) 7

2

Dominosteine

Dominik made Dominosteine. It wasn't easy to neatly layer the dough, marzipan and jam. In the end, Dominik coated some of the Dominosteine with dark chocolate and some with white chocolate.

The finished Dominosteine go into a rectangular box:



Dominik wants to fill the box completely. The dark and white Dominosteine should always be arranged alternately.

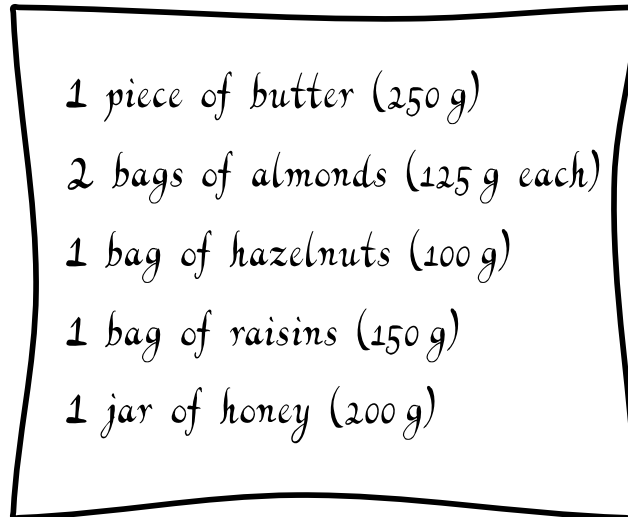
How many Dominosteine of each type does Dominik still need to make?

- (H) 7 dark and 9 white
- (R) 8 dark and 9 white
- (I) 8 dark and 8 white
- (W) 9 dark and 8 white
- (D) 9 dark and 7 white

3

Baked apples

Linus and Paul are buying ingredients for baked apples. Their grandmother has given them a shopping list:



They now want to divide the shopping fairly. What Linus carries home should be just as heavy as what Paul carries home.

How much does each of them have to carry?

(N) 350 g

(U) 400 g

(Y) 475 g

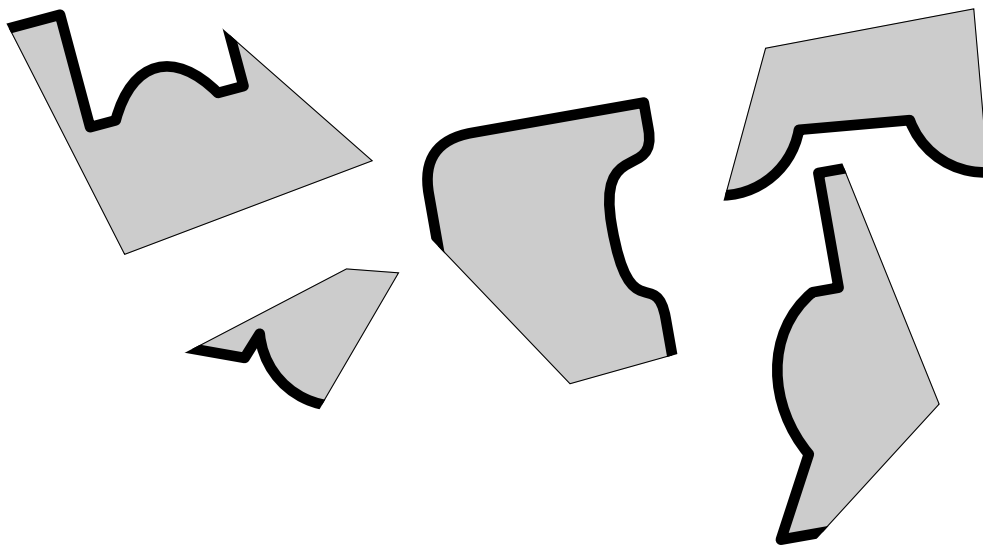
(C) 550 g

(R) 675 g

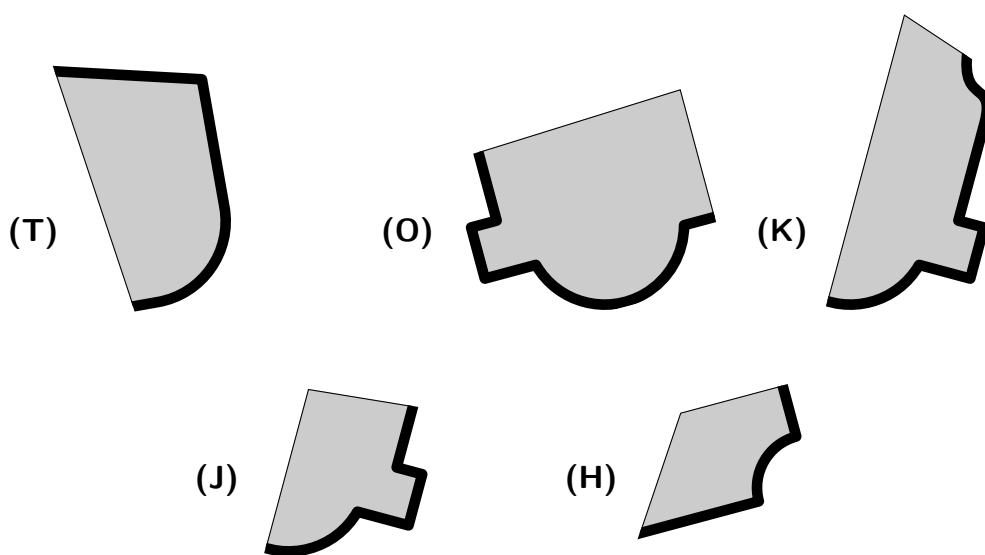
4 Gingerbread train

Johanna baked a gingerbread locomotive. Just as she was about to start decorating it, an accident occurred: the gingerbread locomotive slipped off the baking tray and broke into six pieces.

Five pieces are lying on the table:



The sixth piece has fallen on the floor. What does this piece look like?



5

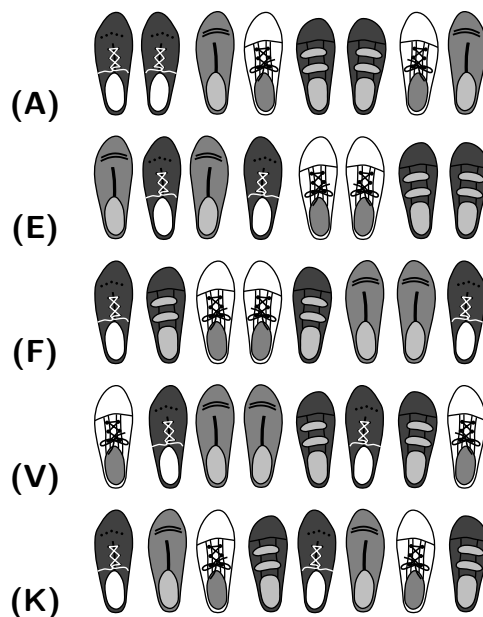
On the evening before St. Nicholas' Day

Deep in the forest, four little gnomes live under the roots of a strong tree. During winter, they sit in their cave and wait for spring. But today is a special day. They polish their little shoes until they shine because tomorrow is St. Nicholas' Day.

The gnomes place their polished shoes 'neatly' in front of the door. But Saint Nicholas will be surprised, because gnomes have a very different sense of order than we humans do. When they line up their shoes, they do it like this:

First, the first gnome puts his pair of shoes down. The second gnome pushes his pair of shoes between the shoes of the first gnome. Each of the next gnomes pushes the row of shoes a little bit apart to create a gap. Then he places his shoes in this gap.

What could the row of shoes of the four gnomes look like?



6 Chocolate rings

Julian and Aslan made themselves comfortable on St. Nicholas' Day. They read fairy tales and snacked on chocolate rings that they found in their shoes.

Aslan finds it hard to resist chocolate rings. When he finished the last one, Julian said, "Did you know that you ate 4 times as many rings as I did? I counted them all!"

Of course, Aslan didn't count them. Now he wants to find out how many he ate. At the beginning, there were 30 rings in the shoes.

How many of them did Aslan eat?

(P) 15

(X) 20

(U) 24

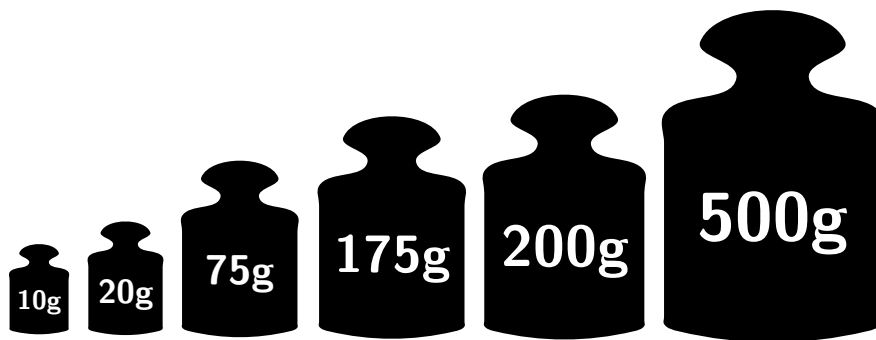
(I) 27

(T) 28

8

Christmas almonds

Every year at the Christmas market, Mr Schlemmer sells the most delicious roasted almonds I know. He uses an old set of scales to weigh the almonds. Unfortunately, he no longer has all of his balancing weights. Next to the scales, he only has these left:



I want to buy a small bag of 125 g of almonds. Since the 125 g weight is no longer available, Mr Schlemmer uses two other weights to weigh it. He places one on one side of the scales and the other one on the other side.

Which two weights did he use to balance the scales with the small bag of almonds?

- (X) 10 g and 75 g
- (R) 75 g and 175 g
- (N) 20 g and 175 g
- (A) 75 g and 200 g
- (F) 175 g and 500 g

9 Marzipan

Maja buys a large piece of marzipan for 4 euros and 79 cents. She pays with a 5-euro note and receives 5 coins as change.

There are two possible sets of 5 coins that Maja could have received.

Which coin is definitely among them?

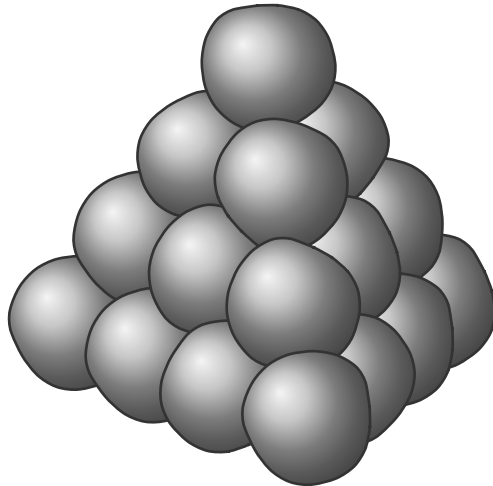
- (D) a 1-cent coin
- (J) a 2-cent coin
- (P) a 5-cent coin
- (E) a 10-cent coin
- (B) a 20-cent coin

10

Marzipan potatoes

Today, Maja shaped marzipan potatoes. They smell of almonds and rose water. After rolling the marzipan potatoes in cocoa, they look simply wonderful.

Maja wants to impress her family and neatly arranges them in a pyramid.



For the bottom layer, Maja arranged the marzipan potatoes close together in a triangle. Then she placed the second and third layers on top and finally added one marzipan potato as tip.

How many marzipan potatoes are there in Maja's pyramid?

(H) 14

(D) 16

(E) 18

(R) 20

(F) 22

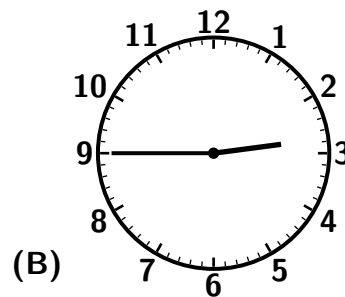
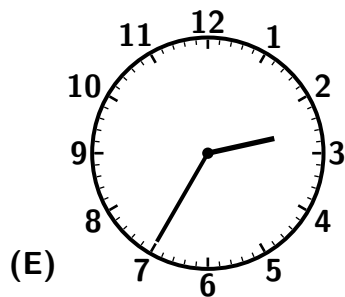
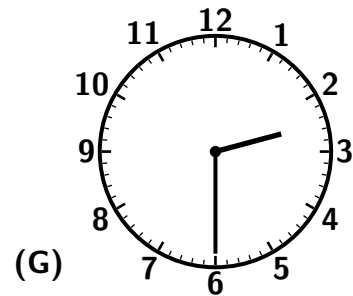
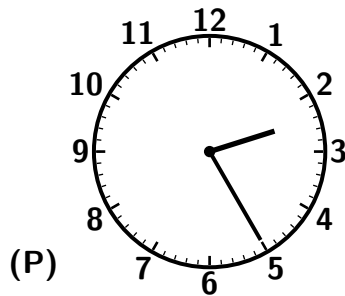
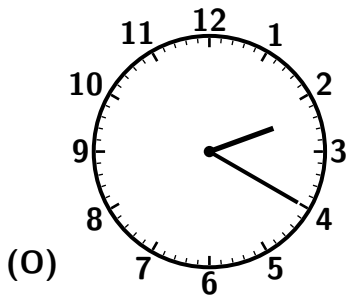
11

Christmas stollen

Right after school, Kurt was supposed to take the 2:10 p.m. bus to the neighbouring village to bring his aunt a Christmas stollen. Kurt left home so early that he was at the bus stop 5 minutes before the bus was due to leave. But Kurt forgot that his watch runs 10 minutes fast, so he still had plenty of time before the bus arrived. And then, the bus was 5 minutes late!

“Finally,” Kurt shouted when the bus arrived and he looked at his watch.

What time did his watch show at this moment?

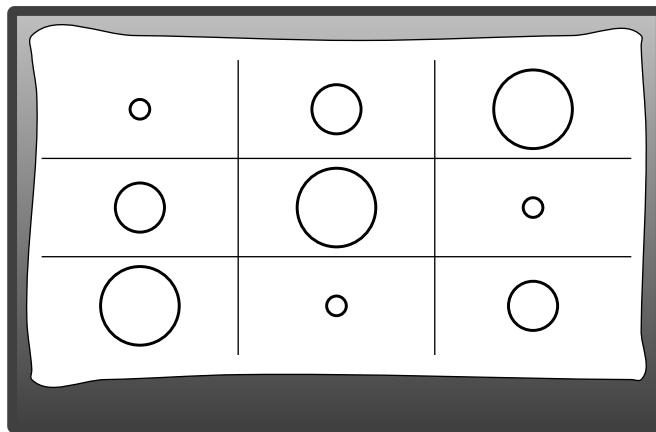


12

Coconut macaroons

Chiara, Lasse and Leonie want to bake coconut macaroons. However, they cannot agree on how many spoons of dough to use for each macaroon. So now they make three types of macaroons: small ones made with one spoon of dough, medium ones made with two spoons of dough and large ones made with three spoons of dough.

First, they want to bake 3 macaroons of each type. Leonie carefully marks the spots where the macaroons should go on the baking paper. There should be exactly one macaroon of each type in each horizontal and vertical row.

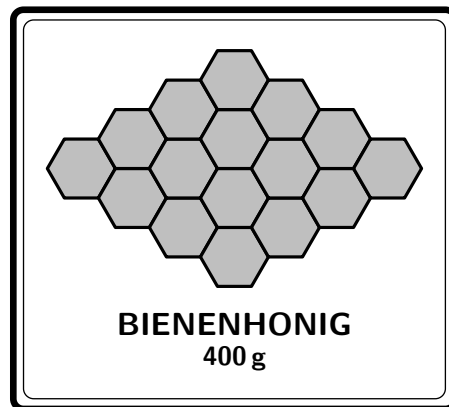
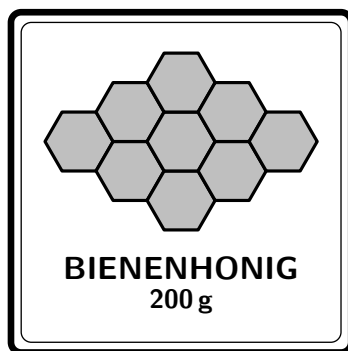


Leonie quickly found this possibility. But is this the only one? How many possibilities are there?

- (Q) only this one
- (E) two
- (B) three
- (R) four
- (U) more than four

13 Honey cake

At the weekend, Mirja's grandmother wants to bake moist honey cakes. Mirja gathers the ingredients. In the cupboard, she finds two jars of honey, a small one and a large one. Both are from the same beekeeper, as can be seen from the label.

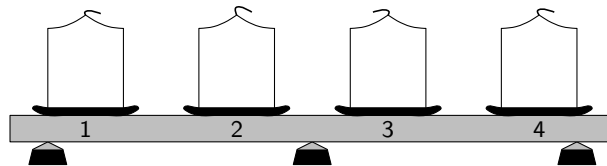


Mirja knows that the beekeeper also sells jars that are one size larger. How many small hexagons are likely to be visible on the next largest jar?

- (F) 21
- (I) 22
- (U) 23
- (C) 24
- (A) 25

14 Speculoos

There is a strange custom in Speculatia during Advent. Every Sunday in Advent, freshly baked speculoos are eaten and an Advent candle holder is placed on the table:



When the candles are lit, everyone eats speculoos. And when the candles have burned down by exactly half their length, it's over. The candles are blown out and the table is cleared again.

On the 1st Advent, only the 1st candle burns. On the 2nd Advent, the 1st and the 2nd candle burn. On the 3rd Advent, the 1st, the 2nd and the 3rd candle burn. And on the 4th Advent, all 4 candles burn. When a candle has burned down completely, it is replaced with a new candle on the following Sunday of Advent before being lit.

What will a candle holder in Speculatia look like on the 4th Advent when all the candles have been blown out?

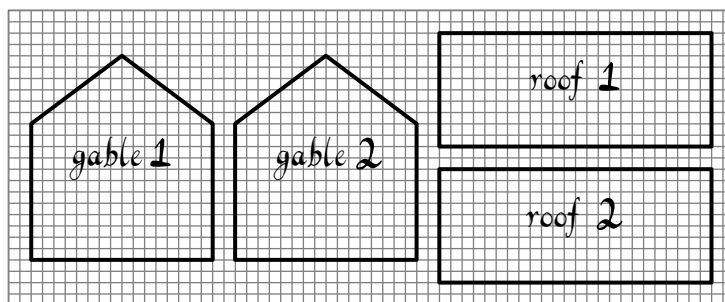
- (N)
- (B)
- (T)
- (L)
- (S)

15

Gingerbread house

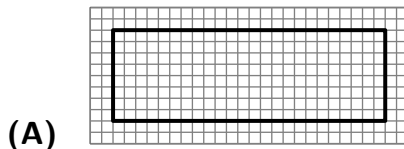
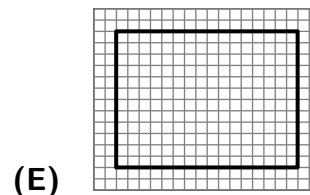
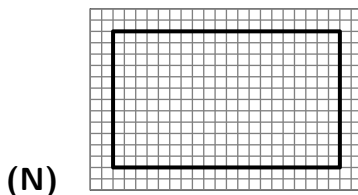
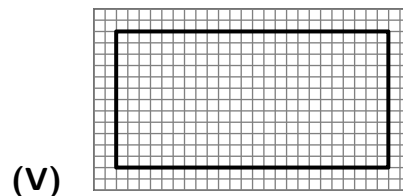
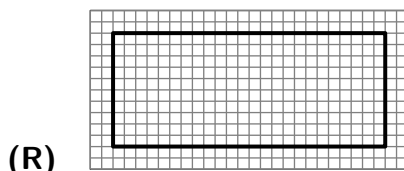
Together with his father, Lukas wants to build a gingerbread house. Lukas is still pondering the dimensions of the house, because the pieces have to fit together perfectly.

To make things easier, he decided to build a model out of paper first. Lukas drew the two gable ends of the house and the rectangles for the two roof halves on some thicker squared paper:



Now only the two long walls are still missing.

How should Luke draw one of the long walls?



16

Chocolate heart

Today, the five friends Ella, Karl, Sebastian, Marie and Nico, had a Christmas party at school. Everyone took home a small gift: a book, a little puzzle game, a card game, a hand-knitted scarf or a chocolate heart.

Ella got something to play with.

Karl got something to snack on.

Sebastian didn't get the book.

Marie also got something to play with.

What did Nico get?

- (N) the book
- (D) the puzzle game
- (L) the card game
- (G) the scarf
- (O) the chocolate heart

17

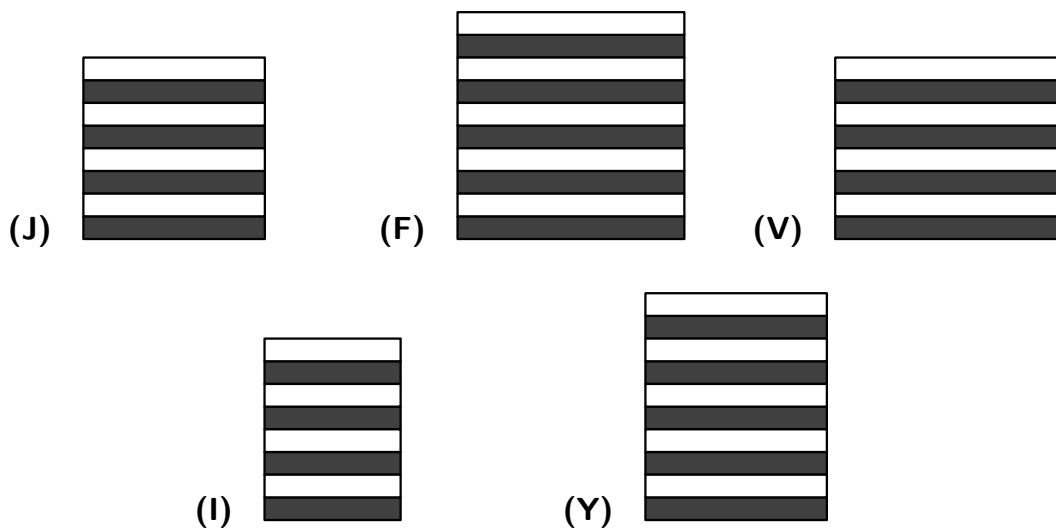
Black and white biscuits

Light and dark dough can be used to bake beautifully patterned biscuits. Simon is baking striped biscuits today.

Simon rolls out the light and dark dough evenly, about 1 cm thick. Then he cuts a rectangle out of both types of dough, about 40 cm wide and 80 cm long. He places the light-coloured dough rectangle exactly on top of the dark one. Now he cuts it in half lengthwise and places one half on top of the other without turning it over. He repeats the whole process again: he cuts it in half lengthwise and places one half on top of the other without turning it over.

Now Simon has an 80 cm long dough strip. He cuts this into slices. Now all that's left to do is bake them and the striped biscuits are ready!

What do Simon's biscuits look like?



18

Vanilla crescent cookies

Late in the evening, Valentin bakes vanilla crescent cookies. He is about to open the oven to put the first tray in. In the oven door window, he sees the reflection of the digital clock that stands on the opposite side.

The reflection of the display looks like this:

22:05

One hour and 10 minutes later, he takes the last tray out of the oven. Once again, he sees the time reflected in the oven door window. What does Valentin see?

(E) 50:55

(T) 20:22

(G) 20:55

(U) 50:22

(R) 20:50

19 Spitzbuben cookies

This year, the fairy Felicitas wanted to give the gnomes a basket of her homemade Spitzbuben cookies with apricot jam. The journey was long and led through the fairy tale forest. She put her basket down under an old tree to rest for a while.

After a few minutes, her eyes began to close, but suddenly she heard a rustling sound and woke up. Four gnomes quickly hopped out of the basket and had an innocent look on their faces. But they had cookie crumbs in their beards, and Felicitas immediately saw that some of the Spitzbuben cookies were missing from the basket. The gnomes had been snacking. "Come on," she called, "how many Spitzbuben cookies did the four of you eat in total?"

The gnomes came clean, and this is what they said:

Waldemar grumbled, "More than 3, but less than 7."

Tarel admitted, "More than 7, but less than 12."

His brother Nisse said, "More than 11, but less than 16."

And Funkel said, "More than 14, but less than 18."

Felicitas knew, that in a group of gnomes, half of them are speaking the truth and half of them are lying. Fortunately, these gnomes weren't particularly clever, and Felicitas quickly figured it out.

How many Spitzbuben cookies were missing?

(H) 9

(A) 10

(Z) 13

(R) 15

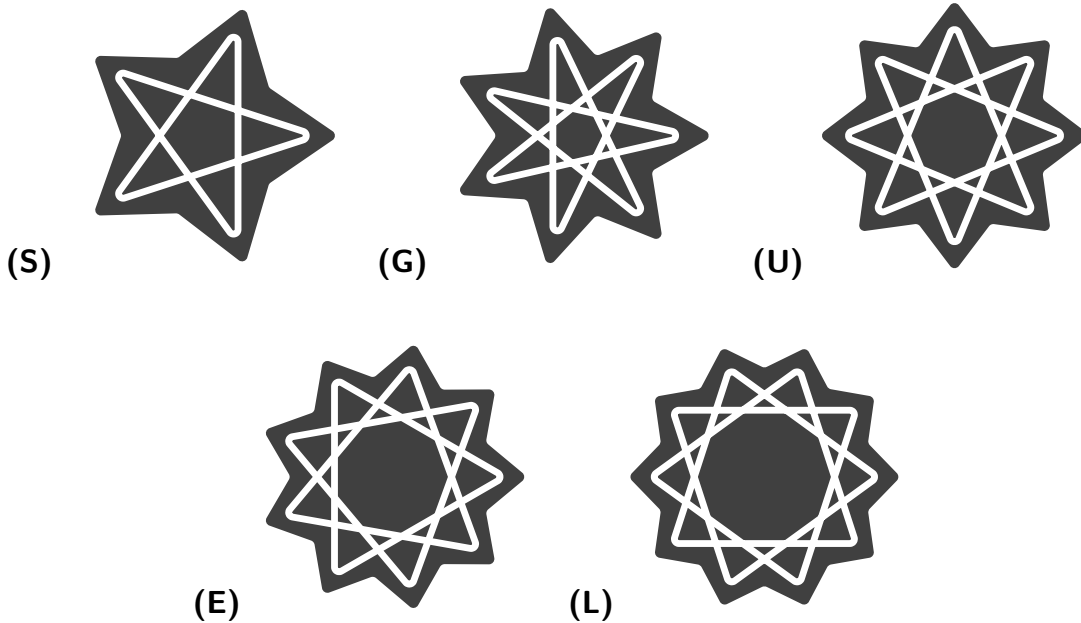
(O) 16

20

Hazelnut stars

Aunt Frieda has five star-shaped cookie cutters with 5, 7, 8, 9 and 10 points for her hazelnut stars. To decorate them, she piped icing onto the stars in fine lines using a piping bag. For four of the stars, Aunt Frieda started at one tip and decorated the stars with straight lines from tip to tip without stopping even once.

For one of the 5-pointed stars, however, she had to put down the piping bag while decorating and start again at another tip. Which one?



21

Almond gingerbread

Alexandra has bought a baking book with Christmas recipes. There are all kinds of biscuits, spicy speculoos and stollen. Everything looks delicious.

Alexandra wants to bake almond gingerbread first. She is amazed at how many different gingerbread recipes there are. In her book, the section with gingerbread recipes starts on page 27. The last gingerbread recipes are on page 42. There are two recipes per page.

How many gingerbread recipes are there in Alexandra's baking book?

(U) 32

(Q) 33

(I) 34

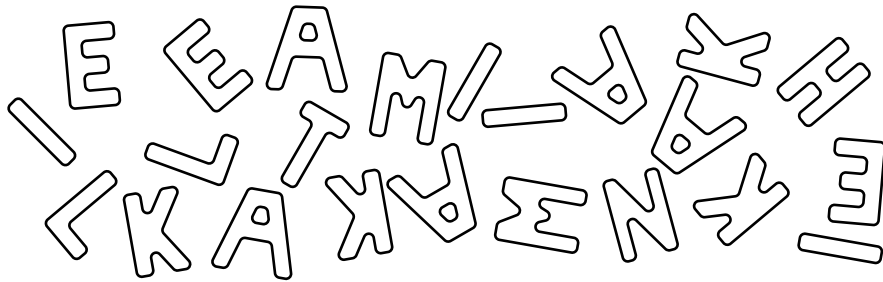
(W) 35

(B) 36

22

Alphabet cookies

For a winter hike, Kai, Heike, Malte and Laika took a large bag of Alphabet cookies with them for their break. After they had already nibbled on a few numbers and letters, Kai emptied the bag:



“There are only letters left,” Heike notes. Malte suggests, “Come on, let’s write our names!” Everyone grabs the letters. And it works: the four children can write their names at the same time.

In the end, there are a few letters left. “Can we make a word out of these letters?” wonders Laika.

What word can be made out of the remaining letters?

(M) H I M M E L

(T) T A N N E

(E) F L A M M E

(R) K A M I N

(N) M A N T E L

23

Apricot hearts

Luisa wraps the presents for her family. Everyone gets a few homemade apricot hearts.

Her brother Tobias gets 3 more hearts than her father, and her father gets 2 hearts less than her mother.

Then Luisa's mother gets

- (R) 2 hearts more than Tobias.
- (S) one heart more than Tobias.
- (E) the same number of hearts as Tobias.
- (U) one heart less than Tobias.
- (A) 2 hearts less than Tobias.

24 Christmas Eve

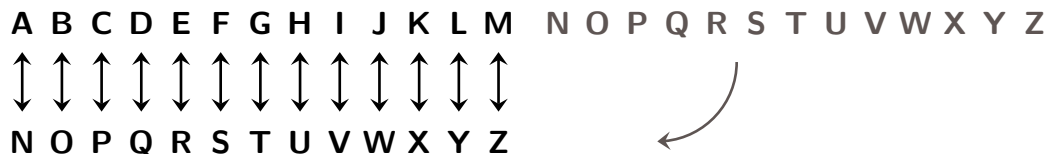
Johanna has made a Christmas present for her best friend Lulu. She wants to write the following on the top of the box:

F R O H E S F E S T

Because the friends enjoy puzzles, Johanna doesn't just write it like that. She wants to encrypt her Christmas greeting.

To do this, she divides the alphabet into two halves. She replaces each letter with the letter that is in the same position in the other half. Johanna has drawn this up as follows:

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕													
N	O	P	Q	R	S	T	U	V	W	X	Y	Z													



In her Christmas greeting, Johanna replaces the F with S, then the R with E, the O with B, the H with U, the E with R, and so on.

Johanna's encrypted Christmas greeting ends up looking like this:

S E B U R F S R F G

To decrypt it, Lulu has to do exactly the same thing: she has to replace each letter with the letter that is in the same position in the other half of the alphabet. Johanna is curious to see if Lulu can figure it out.

The solution of the Känguru-Adventskalender maxi was also encrypted using Johanna's method.

What is the decrypted solution?
