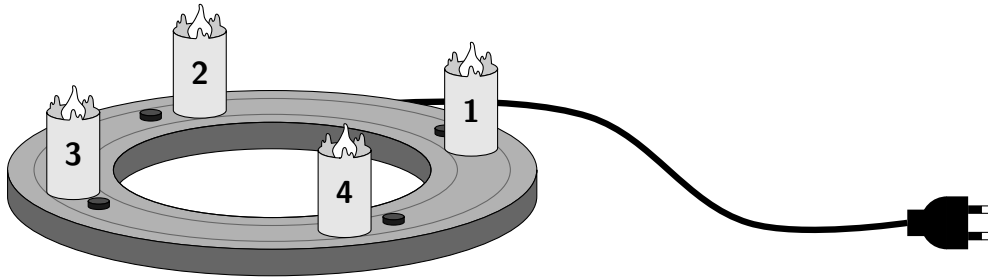


1

Advent wreath

The Cable family's apartment is decorated for Christmas. In her workshop, Mrs. Cable has even built an electric Advent wreath.



Before that too is decorated, there is a problem to solve:

On each candle there is a switch to turn that candle on and off. However, if the switch is pressed, nothing happens to the candle. Instead, the other three candles go on or off. This was not the way it was meant to be.

Mrs. Cable thinks about how it can be made that only candle 1 lights up. That has to be possible if you press several switches one after the other.

Which switches does Mrs. Cable need to press?

(SH) 1 and 3

(UT) 2 and 4

(LO) 1, 2 and 4

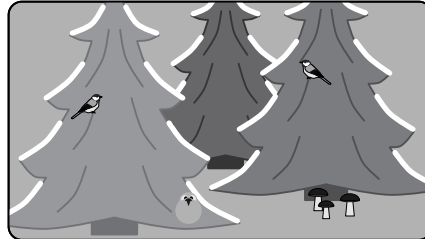
(NO) 2, 3 and 4

(LM) 1, 2, 3 and 4

2

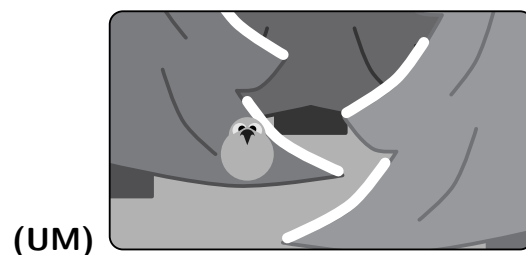
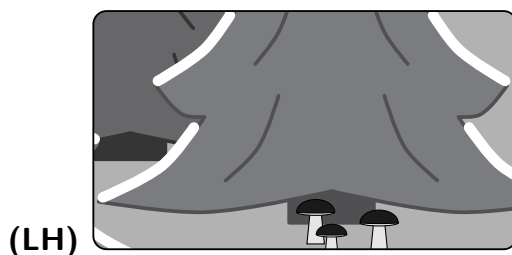
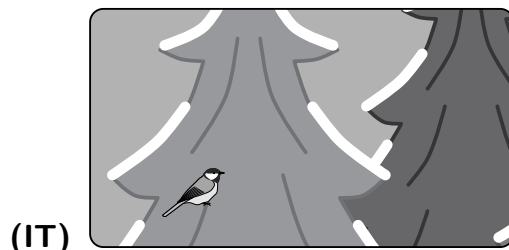
Photo clippings

Yesterday, Simon was hiking with his aunt. They took photos of the snowy fir trees. One photo turned out particularly beautiful:



Simon looks at the photos. He enlarges sections of his favorite photo. Maybe he discovers something additional.

Which section does not belong to Simon's favourite photo?



3

Knitting Socks

This year, Sabine's 6 grandchildren are each getting a pair of home-knitted socks for Christmas. She has knitted 12 socks, red and yellow.

When she finishes, she is stunned to realise that she has made a mistake. There are 7 red and 5 yellow socks. "It doesn't add up," Sabine mumbles, "but I'm sure the children will find mixed pairs of one red and one yellow sock funny."

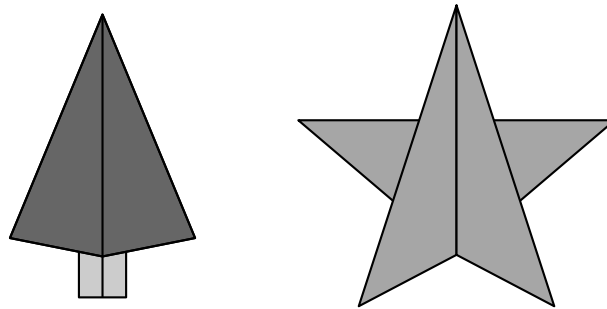
Sabine wants to combine the socks into red, yellow or mixed pairs. She thinks about the possibilities.

Which is right?

- (LA) There must be as many yellow pairs as red pairs.
- (LO) There must be five mixed pairs in any case.
- (IM) There cannot be more than two red pairs.
- (IH) There has to be at least one yellow pair.
- (LT) There has to be at least one red pair.

4 Origami

Greta, Fabio and Mika want to fold Christmas origami figures.



There is a pile of coloured paper on the table. There are 12 sheets of paper, in the order of:

blue, red, green, orange, blue, red, green, orange, blue, red, green, orange.

“Let’s see what colours I get when I pull every 3rd sheet from the pile,” says Greta. “If the sheets were numbered, then I would have the 3rd, the 6th and the 12th sheet.”

“Well, then I’ll take every second sheet from the rest of the pile and Mika will get the rest,” Fabio explains.

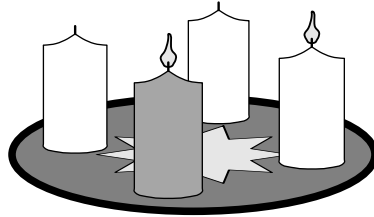
Which children have sheets of paper in all four colours?

- (ST) only Greta
- (UM) only Fabio
- (SO) only Mika
- (UA) only Greta and Mika
- (LM) all three

5

Advent candles

The candle that was lit on the first of Advent has now burned down completely. Jonte has replaced it with a new one that is a little darker.



Jonte would like to now light 2 candles for the 2nd Advent. He has found that there are 6 ways to choose 2 of the 4 candles.

Jonte wants all the candles to burn down the same amount. He chooses each of the 6 pairs of candles once and lets each pair burn for the same length of time.

In 3 hours, all 4 candles have burned down completely.

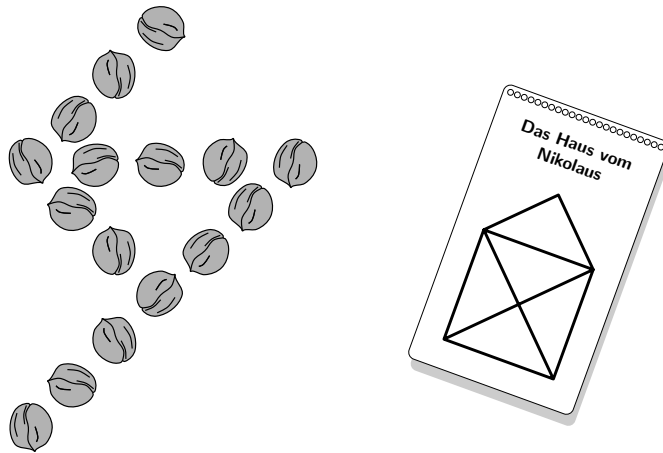
How long did the darker candle burn?

- (LM) 30 minutes
- (LE) 45 minutes
- (SO) 1 hour
- (IA) 1 hour and 30 minutes
- (NH) 2 hours

6

Nicolas

Jule and Sven checked their cleaned boots as soon as they got up. They found sweets, tangerines and walnuts. At the breakfast table, Sven starts to make a figure with the walnuts.



“That looks like Santa’s house,” exclaims Jule. “I know it from my puzzle calendar. You can draw it in one go without putting the pencil down.”

“That’s right,” Sven says. “I want to lay it evenly with walnuts. Go on, join in!”

Jule also gathers all the walnuts from her boot.

How many walnuts are still missing to finish Santa’s house?

(IT) 8

(SA) 10

(LE) 11

(NA) 14

(IO) 17

7

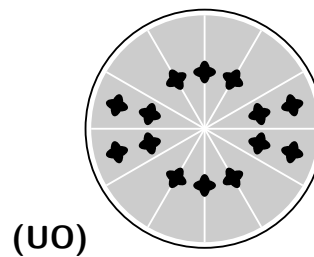
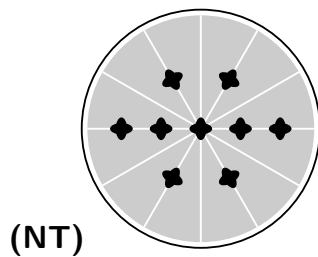
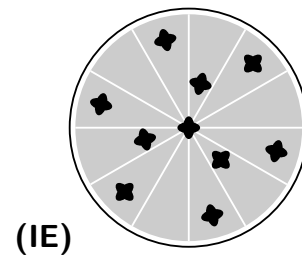
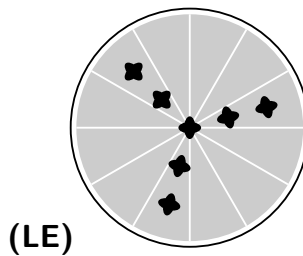
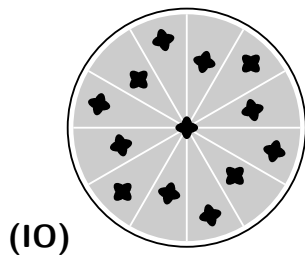
Oranges and Cloves

Anni, Ben, Cara, Darius and Emma want to hang orange slices with cloves in the window. It smells wonderful, and when the sun shines, the panes shine beautifully. Each of the five children has decorated an orange slice, each with a different pattern.

Anni and Ben together used 3 times as many cloves as Cara.

Ben and Emma together used twice as many cloves as Darius.

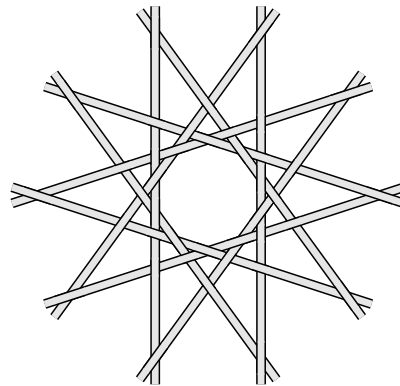
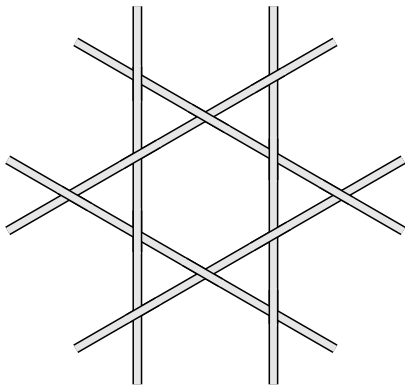
Which orange slice is Ben's?



8

Straw Stars

There are two straw stars in Thea's craft book:



Thea would like to make the stars with coloured straw. Each of the two straws that touch each other should be of different colours. She has already finished the star on the left. She only needed 3 colours for it.

How many colours does Thea need for the right-hand star?

(NO) 4

(IT) 5

(UE) 6

(SM) 7

(IM) 8

9

Colourful Baubles

The little avenue that runs through our village is decorated for Christmas. There are 7 old trees on each side of the street. A large ribbon is tied to each tree. Each tree is decorated with a large bow and coloured baubles – red and gold.

There are altogether more red than gold baubles to decorate. In the end 8 red and 5 golden baubles hang on each tree.

How many more red balls are there in total than gold ones?

(SO) 28

(LA) 30

(UH) 35

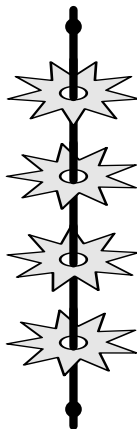
(IM) 42

(NA) 48

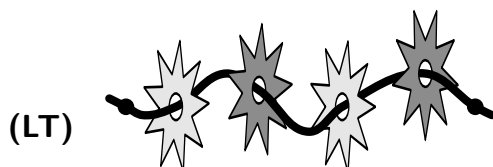
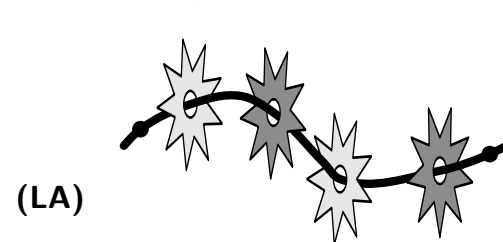
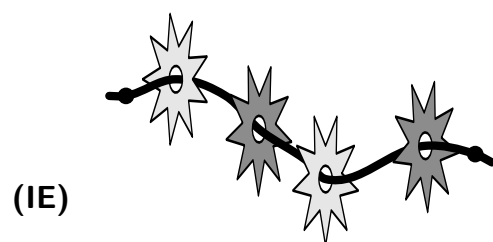
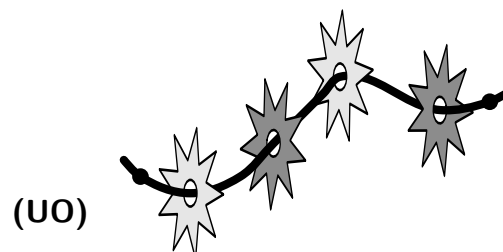
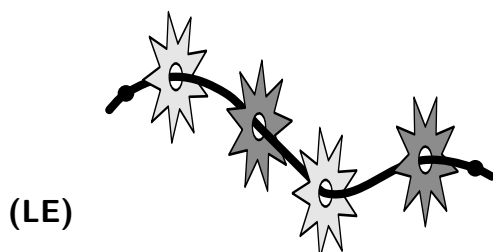
10

Star Chain

Maeve has made a chain. She cut out stars from paper and pinned them on. The paper is two-coloured, the front is light and the back is dark.



Her little cat Max has pulled down the chain. Now it is lying on the floor. What could this look like now?

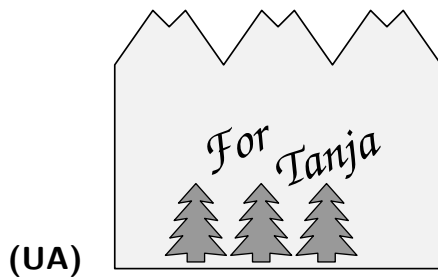
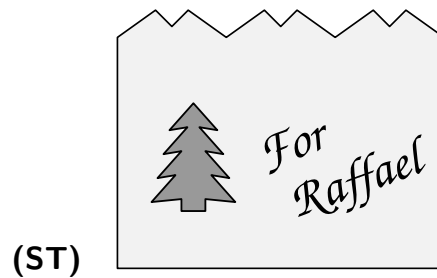


11 Invitation

For the Christmas party in her class, Mrs Schneider wrote invitations.

She always made two invitations from one sheet of paper. She cut each sheet in the middle in different zigzag patterns. For the party, Mrs Schneider came up with a game for teams of two. The two children whose invitations match form a team.

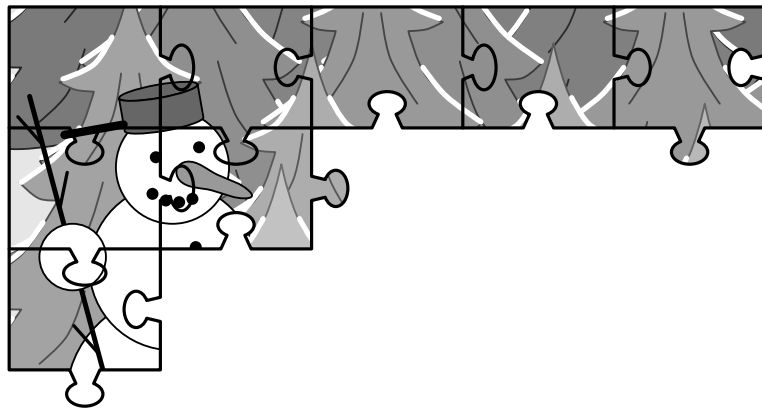
With whom does Lea form a team?



12 Advent Puzzle

Effi's little brother has chosen 5 puzzles in the toy cupboard. On the side of each box is written how many pieces belong to the puzzle.

As soon as he has started one of the puzzles, he smells the fresh pancakes from the kitchen. He jumps up. The puzzle he has started remains lying there.



Which pack goes with the puzzle he has started?

(SE) *Winter in the Bavarian Forest* 30 

(LM) *Winter in the Palatinate Forest* 18 

(IO) *Winter in the Thuringian Forest* 27 

(UM) *Winter in the Black Forest* 39 

(SO) *Winter in the Kaufunger Forest* 16 

13

Chocolate Cookies

Today is Nikolai's birthday. He brought a big tin of biscuits to school. There are biscuits with and without chocolate icing. His four friends Josefine, Mert, Theo and Ella look curiously into the tin.

"So many biscuits! There must be more than 50," Josefine shouts excitedly.

Mert exclaims, "look, at least half of them have chocolate icing!"

Theo says, "I prefer biscuits without chocolate icing. There are at least 20 of them, I think."

Ella thinks, "We are 25 children in the class. I'm sure each one gets 3 biscuits."

Nikolai knows that there are 65 biscuits in the tin, and there are 30 with chocolate icing.

Two of the children guessed correctly. Which two are they?

(IM) Josefine and Ella

(UA) Mert and Theo

(LE) Josefine and Mert

(NA) Mert and Ella

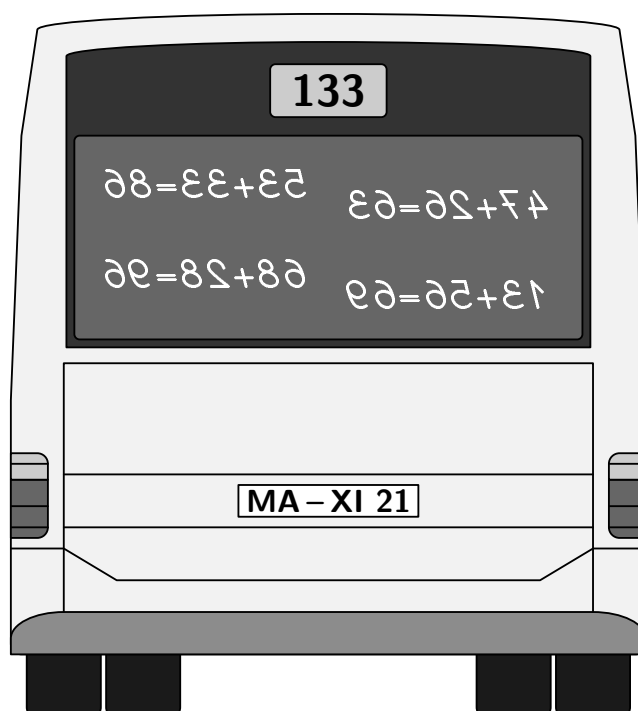
(UE) Josefine and Theo

14

Mirrored Numbers

It was bitterly cold outside this morning. In the school bus, the driver turned up the heating. When the bus had to wait for a long time at a bus stop, the children in the last row practiced adding on the fogged-up window.

When they arrive at the school, the driver looks at the bus from outside and discovers the calculations.



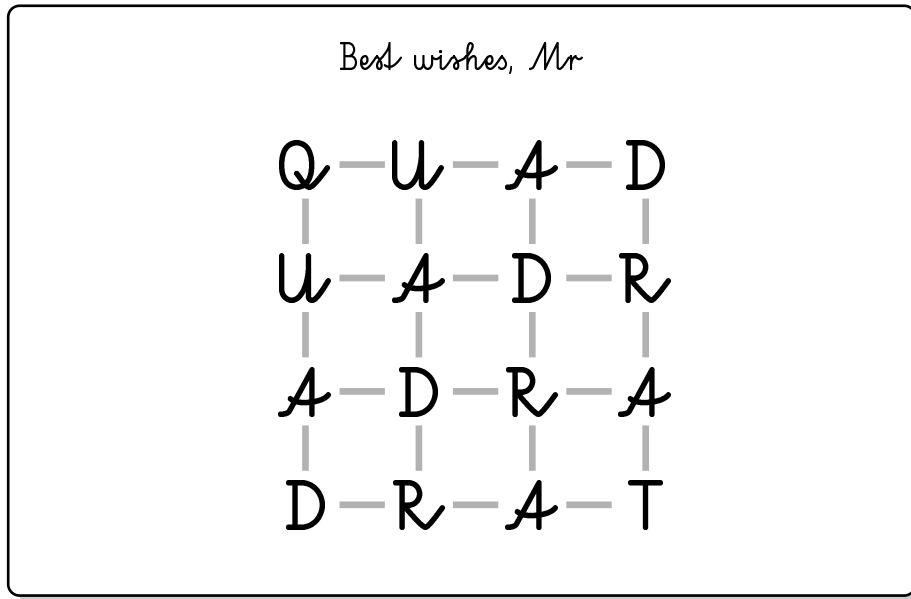
How many of the calculations are correct?

- (NM) None
- (LE) One
- (LM) Two
- (UA) Three
- (NO) All four

15

Birthday

Mr Quadrat, the class teacher of 4a, has a birthday today. His pupils have written a greeting for him on the blackboard. They have written the name QUADRAT so that it can be read in different ways along the lines.



How many different ways are there to read the name QUADRAT?

(IT) 12

(UA) 15

(UT) 20

(IO) 22

(LH) 25

16

Colourful Baubles Again

In the morning, our caretaker Mr Fichte put up a small fir tree in the dining room. He has put up the fairy lights and fetched a box of Christmas baubles from the attic. Mr Fichte hung red, blue, silver and purple baubles, 12 in all.

A different number of baubles of each colour hang on the fir tree.

There are 2 red baubles.

There is one more blue bauble than silver ones.

How many purple baubles hang on the fir tree?

(NM) 1

(LE) 3

(IT) 4

(NH) 5

(UE) 6

17

In the Department Store

Ria is visiting her aunt Anja. Aunt Anja tells Ria about her visit to the new department store. It has a ground floor and four upper floors.

"I went shopping with your uncle Heiko. Of course we got lost in the crowds. Even with a mobile phone it took us a while to find each other again. You can have a look at our messaging mess."

Anja

Hello! Where are you? I just went up 2 floors.
You aren't here either.

15:24

Heiko

I can't see you either. I am going down two floors now.

15:32

Heiko

You aren't here either.

15:35

Anja

I just went up two floors again.
You aren't here either.

15:46

Ria reads and laughs. "I know which floor uncle Heiko was on when you wrote the first message."

Where was uncle Heiko when aunt Anja wrote the first message?

(NA) On the fourth floor

(LE) On the third floor

(NO) On the second floor

(UM) On the first floor

(LH) On the ground floor

18

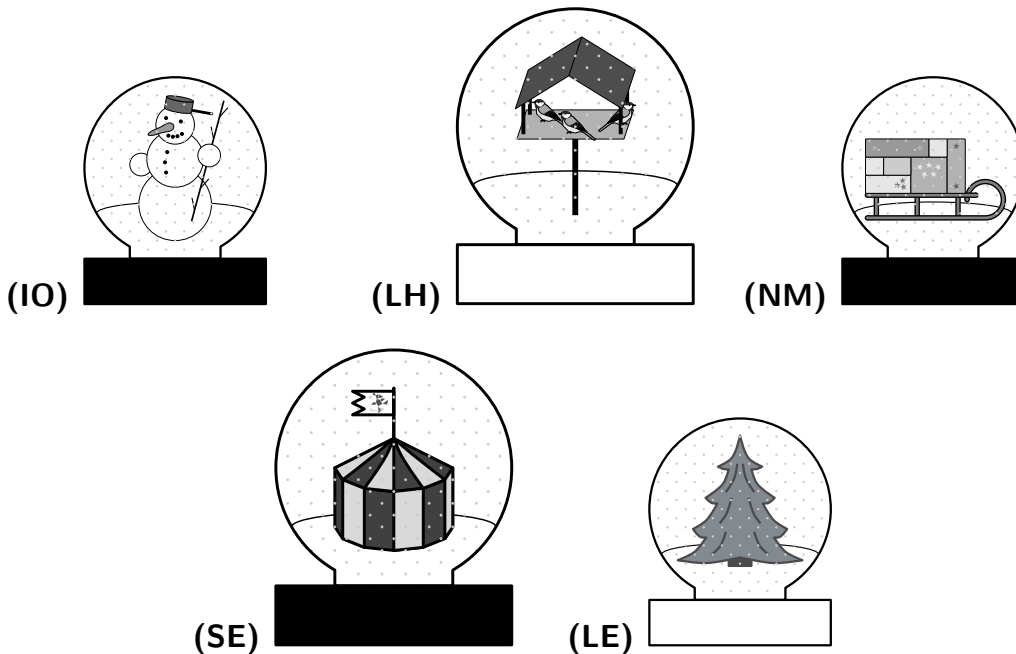
Snow Globe

Five children have brought their snow globes to school.

Arvid nudges Nadira. “Look, our snow globes are different sizes, but the bases are the same colour.”

“Our balls are the same size, but the bases are different colours,” Linnea and Hoang discover together.

Mick has the fifth snow globe. Which one is it?



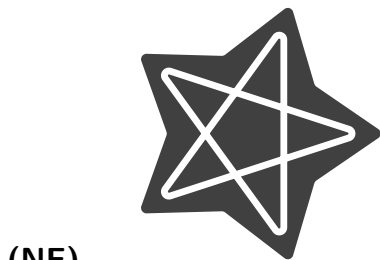
19

Decorating Cookies

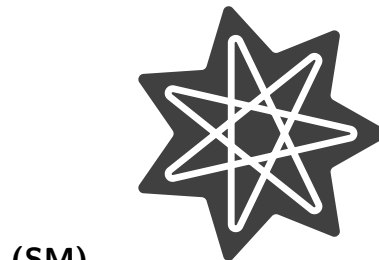
Kerim baked cinnamon stars with his mother. They have cookie cutters for stars with 5, 7, 8, 9 and 10 points. To decorate the stars, Kerim used a packet of icing to make some fine lines on the pastry, as pictured.

For 4 varieties, Kerim started at one tip and then decorated the stars with straight lines from tip to tip, without setting them down even once.

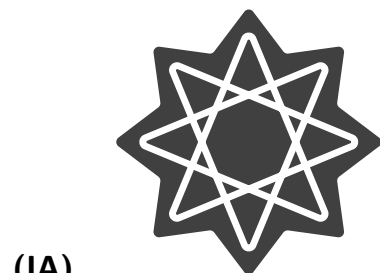
For one of the 5 types, however, he had to stop decorating and start again at another corner. Which one?



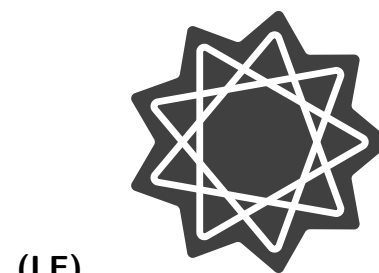
(NE)



(SM)



(IA)



(LE)



(UA)

20

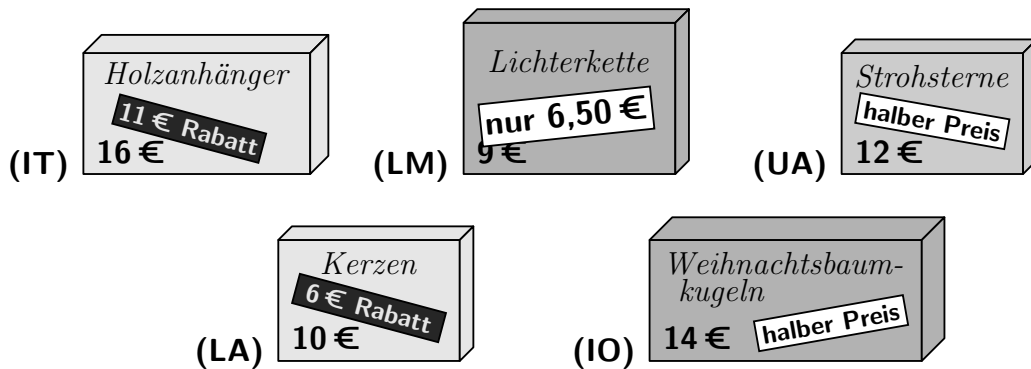
Schaufenster

Auf dem Schulweg bleiben Tom und Ada an einem Schaufenster stehen. So kurz vor Weihnachten wurden die Preise für Weihnachtsschmuck gesenkt.

Ada sagt zu Tom: „Guck mal, auf die Holzanhänger gibt es 11 Euro Rabatt. Dann kosten sie jetzt 11 Euro weniger als vorher, also nur noch 5 Euro.“

„Stimmt!“, ruft Tom. „Los, wir gucken, was jetzt am wenigsten kostet.“

Welcher Artikel kostet jetzt am wenigsten?



21

Geschenkschachtel

Bettys Vater hat zum Verpacken eines Weihnachtsgeschenks eine Schachtel mit buntem Papier beklebt. Betty holt Sticker, um die Schachtel zu verzieren.

Betty sagt: „Auf jede der vier Seiten habe ich gleich viele Sticker geklebt. Das ist schön symmetrisch.“

„Und auf dem Deckel sind 3-mal so viele Sticker wie auf einer Seite“, stellt ihr Vater fest.

„Genau! Und auf dem Boden habe ich keine Sticker geklebt, weil der ja gar nicht zu sehen ist“, ergänzt Betty.

Wie viele Sticker könnte Betty insgesamt verwendet haben?

(NT) 26

(IE) 27

(UM) 28

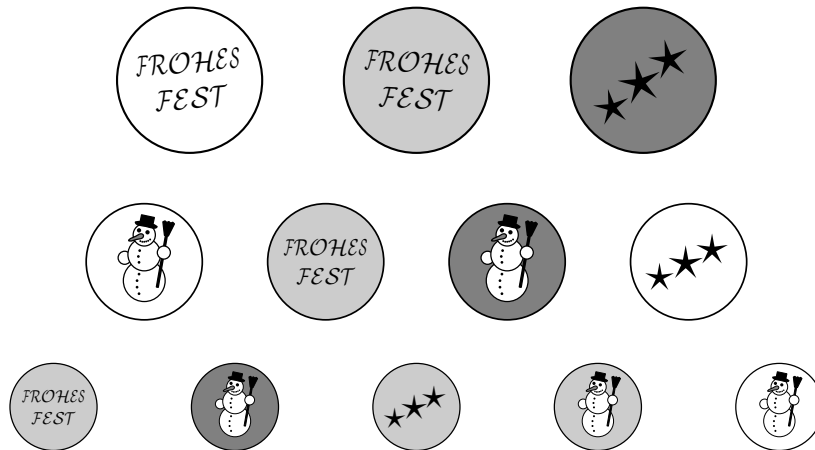
(IM) 29

(NA) 30

22

Tannenschmuck

Blanca hat im Schrank 12 Weihnachtskugeln gefunden. Sie stellt fest: Es gibt 3 verschiedene Größen, 3 verschiedene Farben und 3 verschiedene Motive.



Blanca möchte 3 Kugeln so auswählen, dass sie

- alle 3 Größen und
- alle 3 Farben und
- alle 3 Motive

dabei hat. Eine Möglichkeit zeigt das Beispiel rechts:



Wie viele Möglichkeiten gibt es insgesamt?

(NH) 2

(IO) 4

(LM) 6

(LE) 8

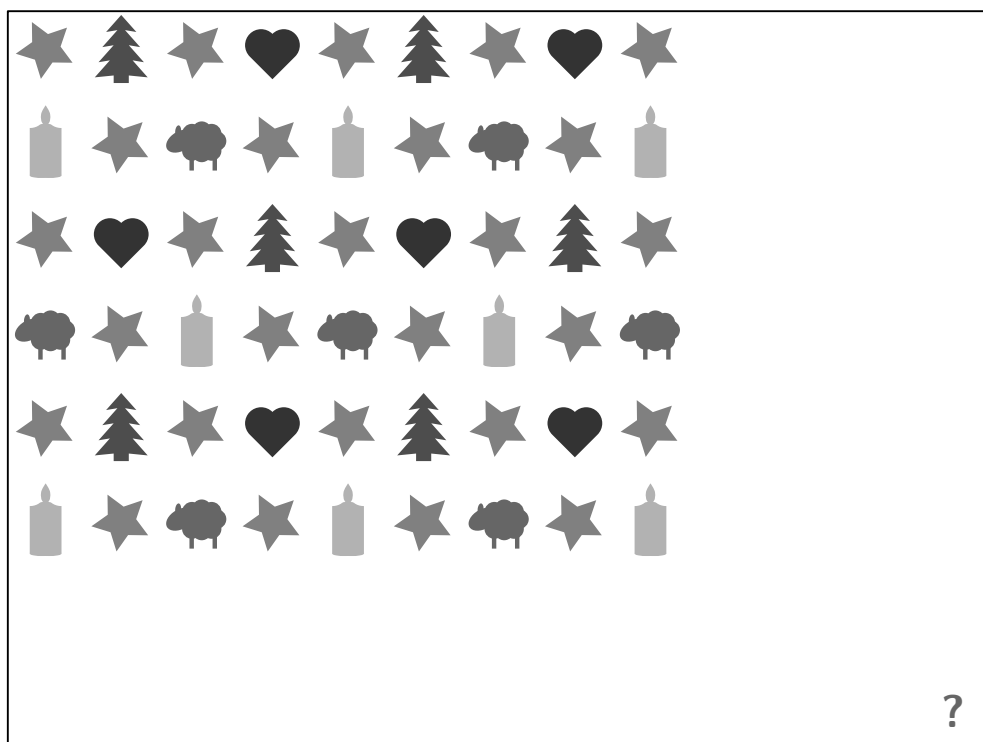
(UA) 10

23

Geschenkpapier

Schon morgen ist Heiligabend, Amir muss heute Geschenke einpacken. Das Geschenkpapier macht er selbst mit Kartoffeldruck. Er nimmt einen großen Bogen Papier und hat fünf verschiedene Kartoffel-Stempel geschnitzt.

Amir stempelt ein ganz regelmäßiges Muster auf den Bogen. Er hat schon 6 Reihen fertig, in jeder sind 9 Bilder gestempelt.



Amir stellt fest, dass es insgesamt 8 Reihen mit jeweils 13 Bildern werden. Welches Bild muss Amir in die rechte untere Ecke stempeln?

(IE) (NA) (LE) (UM) (IA)

24

Weihnachtsabend

Linus hat für seinen Freund Matheo ein Geschenk gebastelt und schreibt eine Karte dazu. Natürlich verschlüsselt Linus seine Nachricht! Zum Verschlüsseln benutzt er eine besondere Buchstabentabelle, in der das ganze Alphabet steht:

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

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

Linus will schreiben: **V I E L E G R Ü ß E**

Mithilfe der Tabelle ersetzt Linus jeden Buchstaben durch ein Buchstabenpaar: Er sucht das V in den weißen Feldern und schreibt dafür die Buchstaben in den grauen Feldern, und zwar zuerst den Buchstaben links und danach den Buchstaben oben. Für V schreibt Linus also UH. Dann sucht Linus das I in der Tabelle und schreibt dafür IT, für E schreibt er LE, und immer so weiter.

So wird Linus' Botschaft zu: **U H I T L E I O L E I M N O S E S O L E**

Zum Entschlüsseln muss Matheo rückwärts vorgehen: Für das erste Paar UH sucht er das U in den grauen Feldern links und das H in den Feldern oben. Dort, wo sich die beiden Linien treffen, steht ein V – also muss er das Paar UH durch V ersetzen. Das Paar IT steht für I, und immer so weiter.

Auch das Lösungswort im Känguru-Adventskalender maxi 2021 wurde mit Linus' Buchstabentabelle verschlüsselt.

Wie lautet das entschlüsselte Lösungswort?
