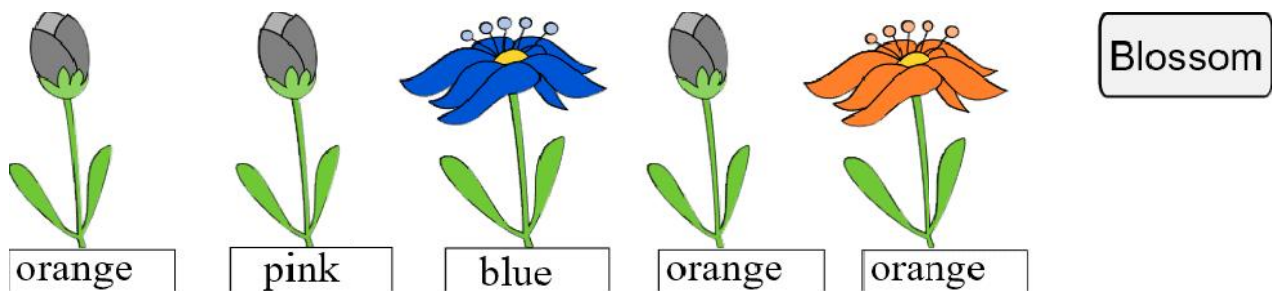


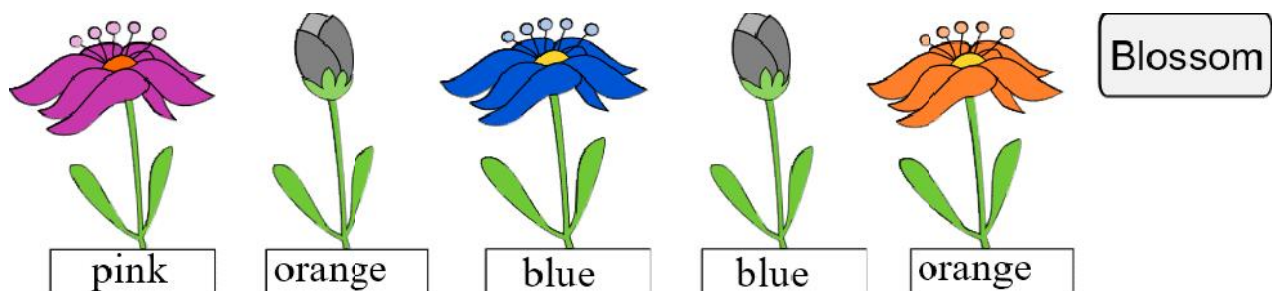
Tasks T1 - T10 carry 3 points each

T1. Color of flowers

Jane is playing a computer game. The computer has secretly chosen colors for five buds. The available colors were blue, orange, and pink. This set will not change during the game. Jane has chosen colors for each bud from the drop-down menu and pressed the Blossom button. The buds, whose colors were guessed correctly, would break into flowers, other buds would not (see picture below).



After that Jane has changed the color of some flowers and pressed the Blossom button again. The result of the second guess is shown in the picture below.



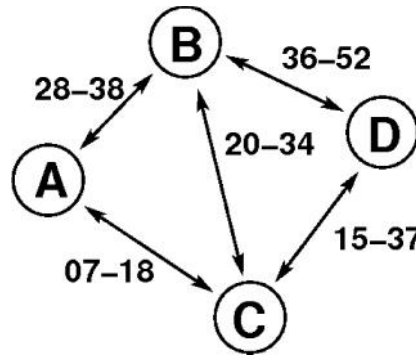
Question / Challenge

What colors has the computer chosen for the flowers?

- A) blue pink blue orange orange
- B) pink blue blue blue orange
- C) pink blue blue pink orange
- D) pink pink blue pink orange

T2. Trip planner

The map shows the train connections between the four beaver towns A, B, C, and D. The two numbers written at a given connection tells us on which minute past the hour the two trains on this connection (one in each direction) depart and arrive, respectively. The timetable is repeating itself every hour. For example, the trains from A to B depart at 8:28, 9:28, 10:28, etc. and arrive in B after 10 minutes at 8:38, 9:38 and 10:38 respectively. Similarly, the trains from B to A also depart at 8:28, 9:28, 10:28, etc. and arrive in A after 10 minutes.







Question / Challenge




Tricia Beaver is in A at 8:45 and wants to go to D. How early can she arrive in D?

- A) 9:37 B) 9:52 C) 10:37 D) 10:52

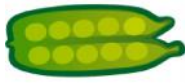
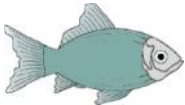


T3. Diet

David is on a six day diet. Each day, he can only eat one kind of food from the list of potatoes , carrots , fish  and peas .

Every day David decides what to eat according to the following rules:









1. He cannot eat the same food for two consecutive days.
2. He must eat carrots  on exactly every 3rd day starting on the 3rd day.
3. He can eat fish  only if he did not eat potatoes  the previous day.

On the previous four days, David ate the following foods:

1 st day - Peas	2 nd day - Fish	3 rd day - Carrots	4 th day - Potatoes
			

Question / Challenge

What must David eat 5th and 6th day?

- A) 5th day: , 6th day: 
- B) 5th day: , 6th day: 
- C) 5th day: , 6th day: 
- D) 5th day: , 6th day: 

T4. Buying Vegetables

Tom's mother wants to prepare a dinner and sends Tom shopping. He should buy at most one of each available vegetable and no other products. Additionally, since his little sister does not like the colors yellow and orange, he should not buy yellow or orange vegetables.

Available products and prices:

Time Allowed: 150 minutes



Orange
11 Bebras
(fruit, orange)



Sausage
19 Bebras
(meat, red)



Tomato
2 Bebras
(vegetable, red)



Paprika
5 Bebras
(vegetable, green)

Brown Bread
17 Bebras
(bread, brown)



Carrots
13 Bebras
(vegetable, orange)



Broccoli
3 Bebras
(vegetable, green)



Radish
7 Bebras
(vegetable, white)

Question / Challenge


How many items will Tom buy ?


- A) 3 B) 4 C) 5 D) 6

T5. Robot's way

The robot is at the bottom left corner of a grid. It wants to reach the top right corner by taking several steps. A step is from one cell to an adjacent one, in any direction.

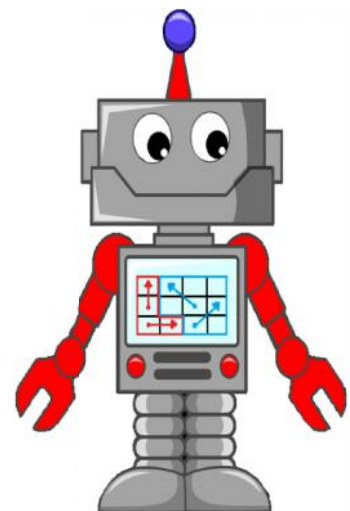
The robot can only make these types of steps:

1) diagonally up to  the left

1) diagonally up to  the right

2) up 

3) to the  right



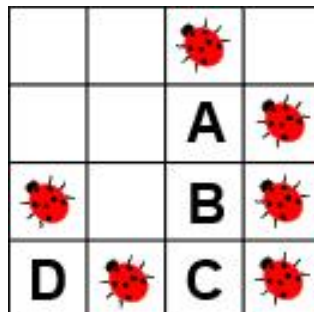
Question / Challenge

What order will the train carriages have to be attached to the locomotive so they can be delivered easily in the right order?



T7. Ladybugs

There is a ladybug in some squares of the grid below. We say that two squares are neighbours if they share a side or corner. This means that each square has up to 8 neighbours.



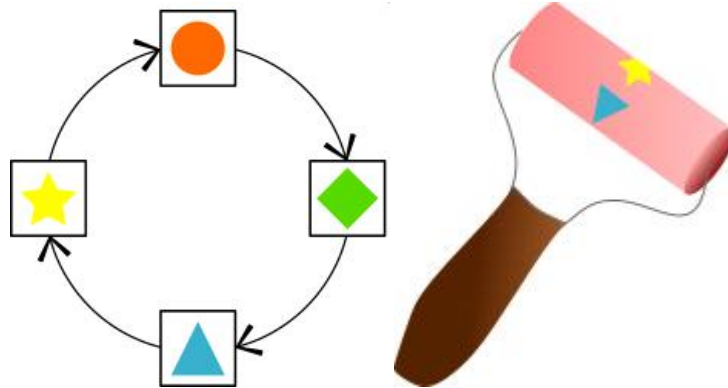
Question / Challenge

Which of the squares has the most neighbouring ladybugs?

- A) A B) B C) C D) D

T8. Bebras Painting

The little Beavers can change any painting using a magic roller that works as follows: the roller replaces the current shape with the next shape, as shown by the arrows in the figure.



When beaver Ben uses the magic roller over the original painting on the left, he gets the painting on the right.



Question / Challenge

What will the painting below look like after applying the magic roller?



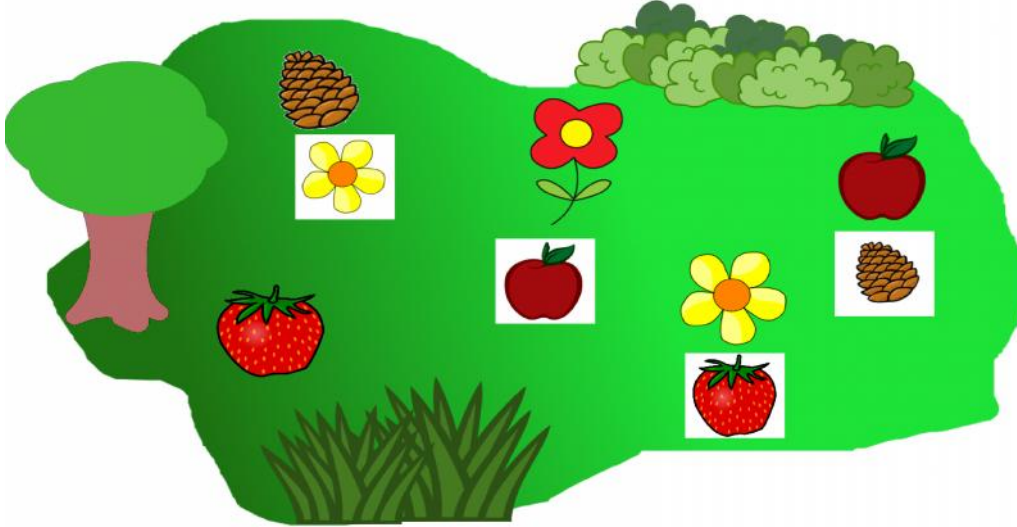
- A)
- B)
- C)
- D)

T9. Secret recipe

The beavers are preparing for the Food Festival, and they would like to bake the Crunchy Cake; but their cook is on holiday. Kate promised to make a cake but all she knows is that it is important to add the five essential ingredients in the right order.

When she gets to the garden, she realizes that with every ingredient there is a piece of paper showing the picture of the ingredient to be added next. There is only one ingredient with no paper next to it.

The garden looks like this:



Question / Challenge

Which ingredient should be added first?



A)



B)



C)



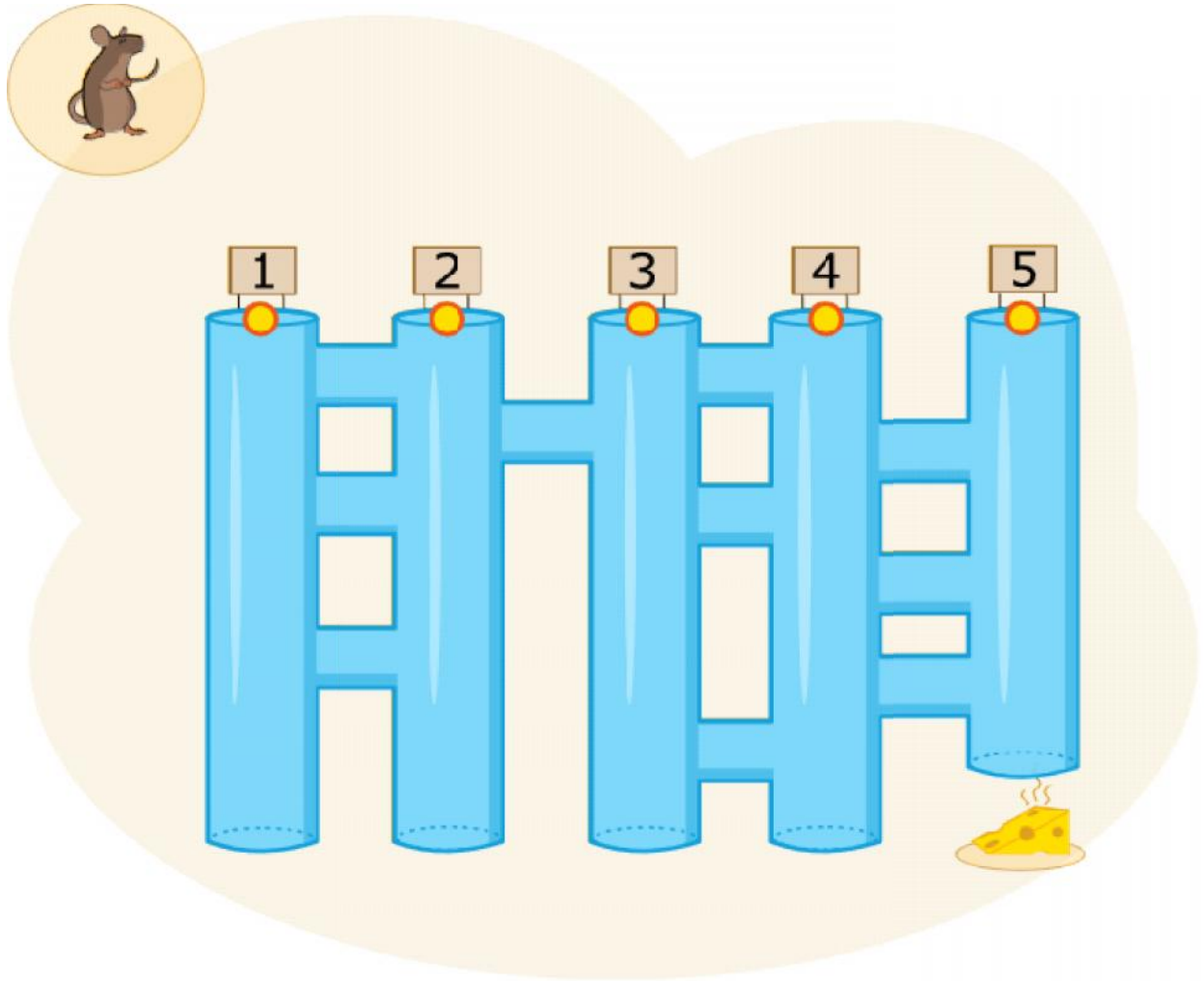
D)

T10. Tube System

A mouse is at the entrance of a tube system and wants to reach the cheese at the end of tube 5.

The mouse always follows these commands:

1. go downwards **till** meet a crossing;
2. **at the crossing**, pass the vertical tube; go to command 1.



Question / Challenge

In which tube should the mouse start so that it reaches the cheese at end of tube 5?

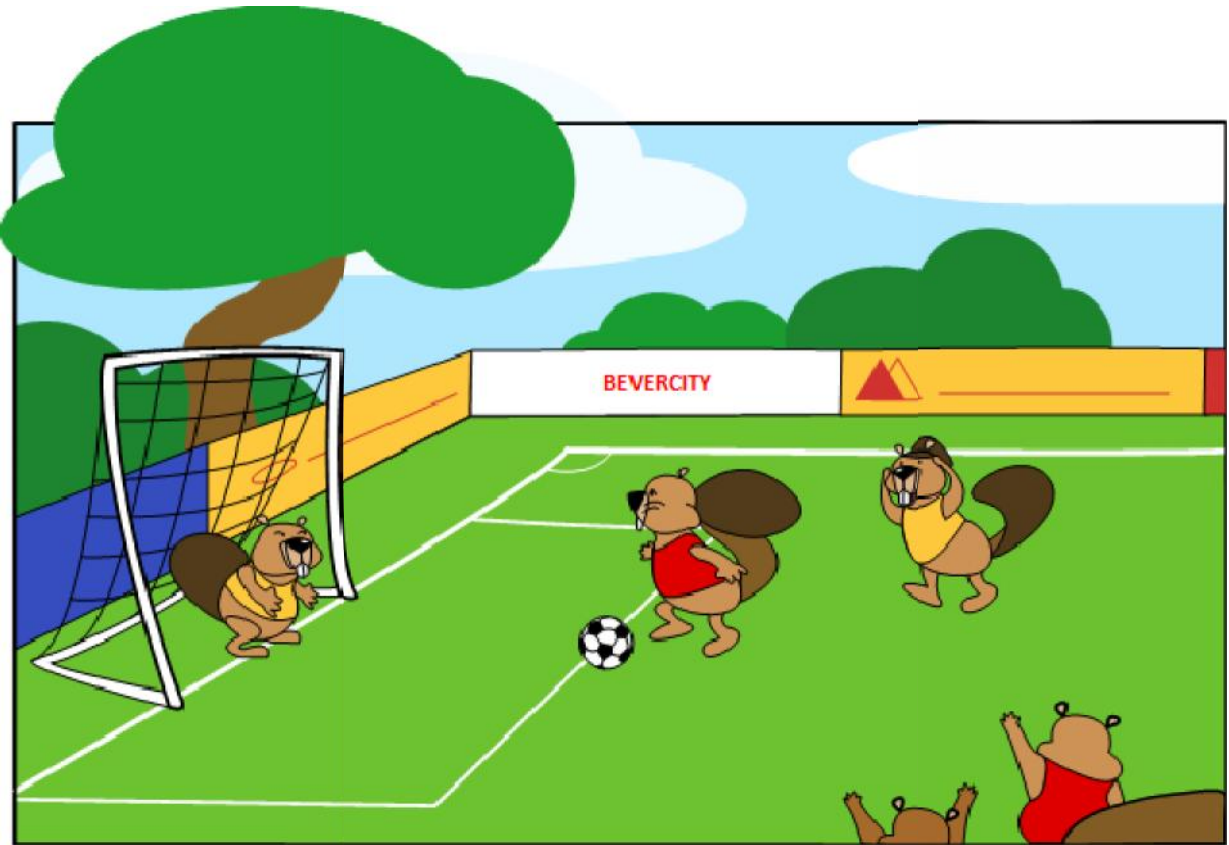
- A) 1 B) 2 C) 3 D) 4 **E) 5**

Tasks T11 - T20 carry 4 points each

T11. Soccer Game

The Beaver Rangers have been playing a soccer game against the Forest Raiders. The following list shows the names of the players that scored a goal:

- minute 1: Anna
- minute 10: Dick
- minute 35: Bernard
- minute 47: Smithy
- minute 73: Backy
- minute 89: Richard



Question / Challenge

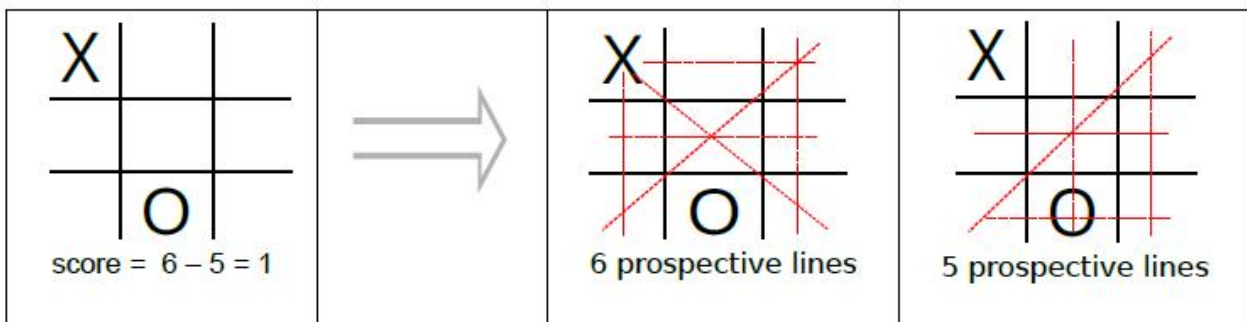
If we know that only one team manages to score two goals in a row, then which of the following can **not** be the final score of the game?

- A) 3-3 B) 5-1 C) 2-4 D) 4-2

T12. Tic Tac Toe

Tic-tac-toe is a two-player game. Beavers X and O alternately place Xs and Os on a 3x3 game board. The winner is the first who places three identical symbols in a horizontal, vertical or diagonal line.

Beaver X plays with the following strategy. He scores each position by counting the number of lines where X can win and subtracting the number of lines where O can win. For example, in the figure below, the current score equals 1 because 6 prospective lines can be drawn with Xs and 5 prospective lines with Os.



Question / Challenge

For the following two cases, help the beaver X calculate the score for each case.

<table border="1" style="margin: auto; border-collapse: collapse;"> <tr><td style="padding: 5px;">X</td><td style="padding: 5px;"></td><td style="padding: 5px;"></td></tr> <tr><td style="padding: 5px;"></td><td style="padding: 5px;">X</td><td style="padding: 5px;"></td></tr> <tr><td style="padding: 5px;"></td><td style="padding: 5px;">O</td><td style="padding: 5px;"></td></tr> </table>	X				X			O		<table border="1" style="margin: auto; border-collapse: collapse;"> <tr><td style="padding: 5px;">X</td><td style="padding: 5px;"></td><td style="padding: 5px;">X</td></tr> <tr><td style="padding: 5px;"></td><td style="padding: 5px;"></td><td style="padding: 5px;"></td></tr> <tr><td style="padding: 5px;"></td><td style="padding: 5px;">O</td><td style="padding: 5px;"></td></tr> </table>	X		X					O	
X																			
	X																		
	O																		
X		X																	
	O																		
Score = _____	Score = _____																		

- A) 6 and 5 B) 2 and 3 C) 4 and 3 D) 5 and 4

T13. 9-Letter Puzzle

Sandra likes to create word puzzles. She found in an Asian Newspaper a nice scheme to describe a word puzzle with a 3x3 grid of letters. To solve such a puzzle one has to form out of these 9 letters as many English words as possible which

- contain all highlighted letters
- contain at least 4 letters.

She created several puzzles and solved one of them.

Here is her solution:

angel, challenge, clan, clean, eagle, glance, hall, heal, lane, lean

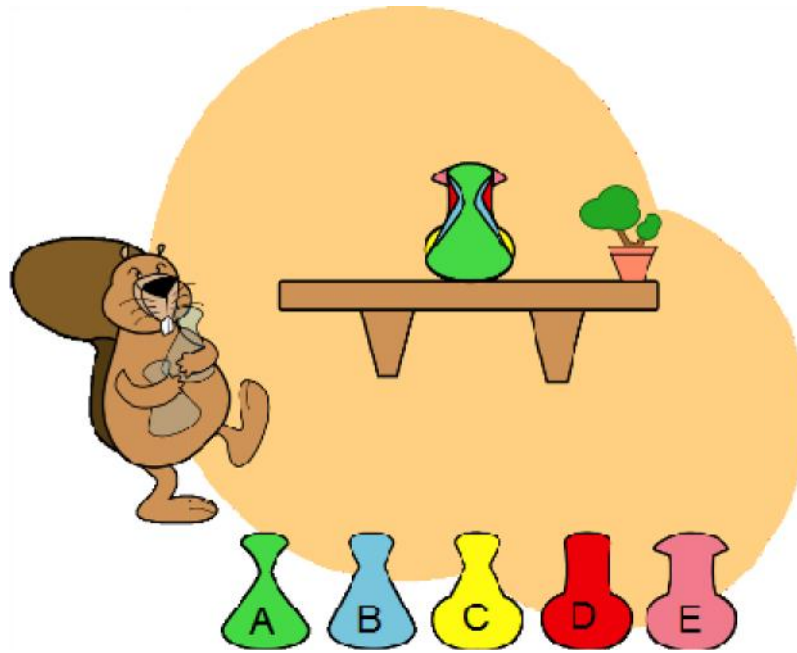
Question / Challenge

Which puzzle did she solve?

- | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| <p>A) <table border="1" style="display: inline-table; border-collapse: collapse; text-align: center;"> <tr><td>h</td><td>l</td><td>n</td></tr> <tr><td>e</td><td>c</td><td>g</td></tr> <tr><td>l</td><td>e</td><td>a</td></tr> </table></p> | h | l | n | e | c | g | l | e | a | <p>B) <table border="1" style="display: inline-table; border-collapse: collapse; text-align: center;"> <tr><td>h</td><td>l</td><td>e</td></tr> <tr><td>n</td><td>c</td><td>g</td></tr> <tr><td>l</td><td>e</td><td>a</td></tr> </table></p> | h | l | e | n | c | g | l | e | a |
| h | l | n | | | | | | | | | | | | | | | | | |
| e | c | g | | | | | | | | | | | | | | | | | |
| l | e | a | | | | | | | | | | | | | | | | | |
| h | l | e | | | | | | | | | | | | | | | | | |
| n | c | g | | | | | | | | | | | | | | | | | |
| l | e | a | | | | | | | | | | | | | | | | | |
| <p>C) <table border="1" style="display: inline-table; border-collapse: collapse; text-align: center;"> <tr><td>h</td><td>l</td><td>n</td></tr> <tr><td>b</td><td>c</td><td>g</td></tr> <tr><td>a</td><td>e</td><td>a</td></tr> </table></p> | h | l | n | b | c | g | a | e | a | <p>D) <table border="1" style="display: inline-table; border-collapse: collapse; text-align: center;"> <tr><td>h</td><td>l</td><td>n</td></tr> <tr><td>e</td><td>c</td><td>g</td></tr> <tr><td>l</td><td>e</td><td>a</td></tr> </table></p> | h | l | n | e | c | g | l | e | a |
| h | l | n | | | | | | | | | | | | | | | | | |
| b | c | g | | | | | | | | | | | | | | | | | |
| a | e | a | | | | | | | | | | | | | | | | | |
| h | l | n | | | | | | | | | | | | | | | | | |
| e | c | g | | | | | | | | | | | | | | | | | |
| l | e | a | | | | | | | | | | | | | | | | | |

T14. Bottles

Beaver is putting five bottles on a shelf. He wants to place the bottles behind each other so that every bottle is at least partially visible.



Question / Challenge

What is the correct order of the bottles so that they appear as shown on the shelf?

- A) E D C B A
- C) E C D A B

- B) D B C A E
- D) D C E B A

T15. Neon text

The Beaver restaurant River has a neon text over its entrance. Individual letters repeatedly change their color. The blue color is followed by red, the red is followed by yellow, and the yellow is followed by blue. Each color is alight for a certain period of time as follows:

Blue - 3 minutes

Red - 2 minutes

Yellow - 1 minute.

The restaurant owner turned on the neon text at 18:00 with these colors:



Question / Challenge

What was the color of the letters during the sixth minute after the text was switched on?

- A)
- C)

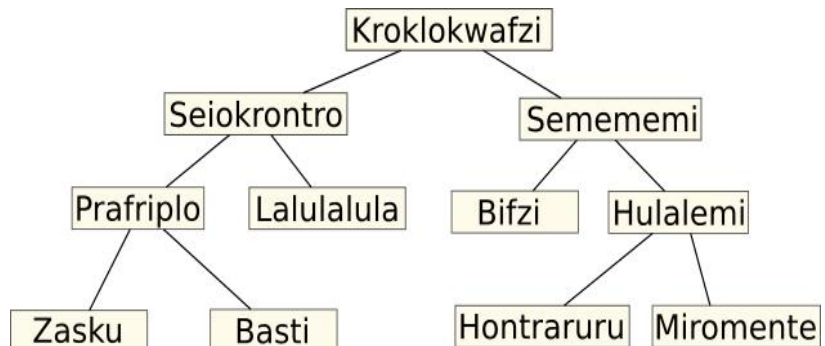
- B)
- D)

T16. Hierarchy

We have got a tree describing relationships between animals on Morgenstern planet. A link between two categories in the tree below means that all members of

the lower category are also members of the upper category. Hence, some sentences can be formed looking at this tree, e. g. every "Hulalemi" is a type of "Semememi" and that some "Seiokronro" are not a type of "Basti".

Alice and Benjamin said:
Alice: Every Basti is a type of Seiokronro
Benjamin: Some Hontraruru are not types of Semememi



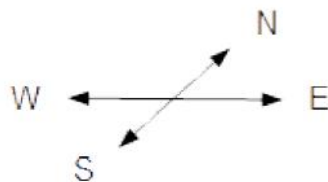
Question / Challenge

What can we say about the correctness of their statements?

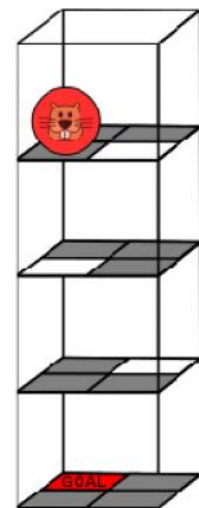
- A) Both were correct
- B) Only Benjamin was correct
- C) Only Alice was correct
- D) Both were incorrect

T17. Spherical robot

The BeaverBall is a toy that can be operated by remote control, and understands each of four direction commands.



If the BeaverBall moves to a white square, it drops down one level. The BeaverBall ignores commands that cause it to move outside the borders.



Question / Challenge

Look at the position of the BeaverBall in the picture above. Which of the following lists of directions will cause the BeaverBall to reach the GOAL?

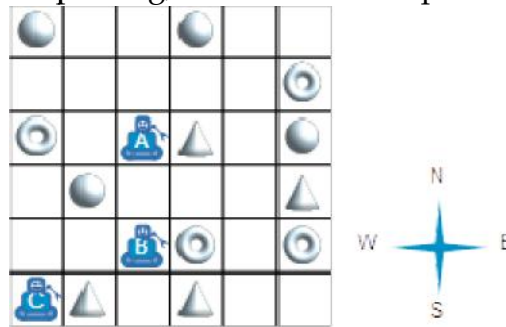
- A) E, W, N, W, W
- B) E, W, N, E, S, W
- C) E, W, E, N, S, W
- D) E, N, W, S, N, E, W

T18. Concurrent directions

In a warehouse, three robots always work as a team.

When the team gets a direction symbol (N, S, E, W), all robots move one grid square in that direction at the same time. After following a list of direction symbols, each robot picks up whatever object there is in the robot's grid square.

For example, if we give the list N, N, S, S, E to the team, then robot A will pick up a cone, robot B will pick up a ring, and robot C will pick up a cone.



Question/ Challenge

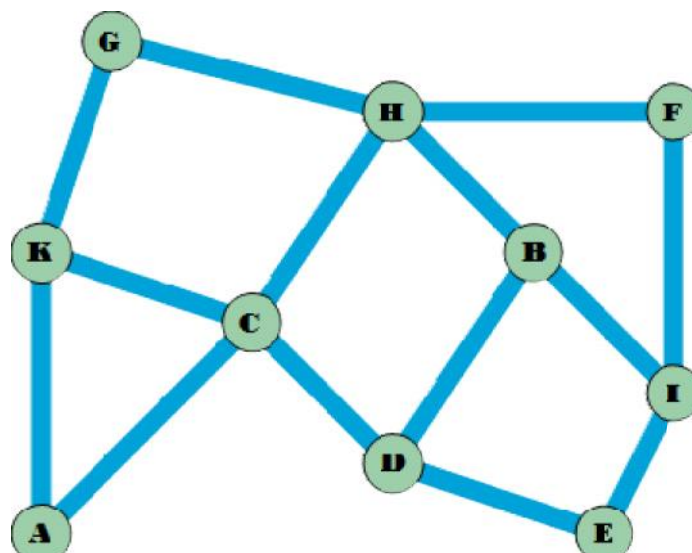
What list can be sent to the team so that the team picks up exactly a sphere, a cone, and a ring?

- A) N, E, E, E
- B) N, E, E, S, E
- C) N, N, S, E, N
- D) N, E, E, S, W

T19. Primary Health Care



The beaver doctor wants to build three stations for primary health care for his fellow beavers. He wants to position the stations so that the beavers have to swim at most through one water canal to reach the next station, regardless of which intersection they are at.



Question / Challenge

Which of the places above cannot be chosen to position a station, while at the same time satisfying the requirements of reaching a station within one water canal at most ?

- A) A B) B C) F D) G

T20. Keys

Beaver Bob needs to open this lock:



Question

Which of these keys can open the lock?



- A) B) C) D)

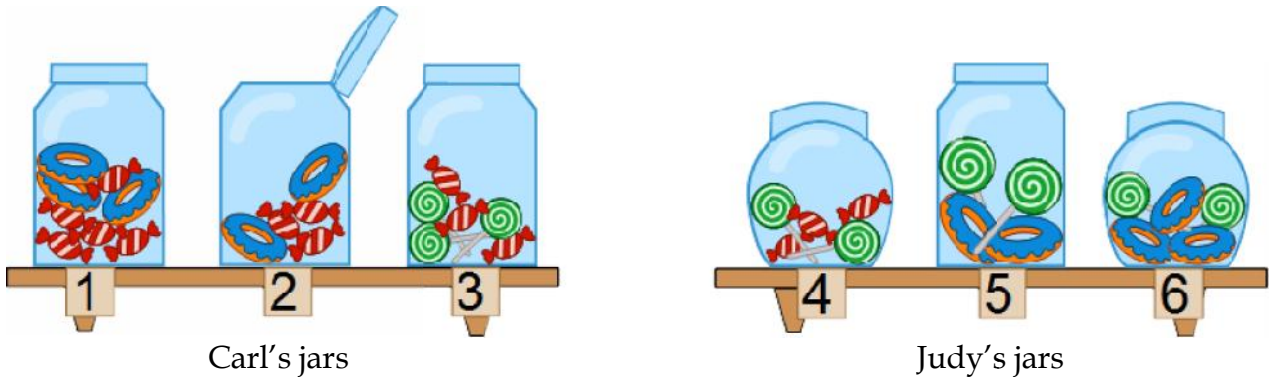
Tasks T21 - T30 carry 5 points each

T21. Deactivating

Beavers Carl and Judy have 3 jars of candies each. Each jar has different properties:

- the jar is open or closed;
- there are different candy types in the jar;
- the shape of the jar.

You can notice that Carl's jars have got some common properties just like Judy's jars.



Question / Challenge

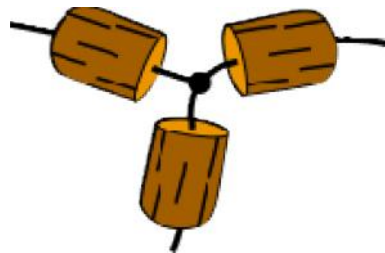
Which jar has both the properties that are common among Carl's jars and Judy's jars separately?

- A) Jar 1
- B) Jar 3
- C) Jar 4
- D) Jar 5

T22. Log Works

Beaver has found a big box filled with a lot of identical toys that all consist of three corks.

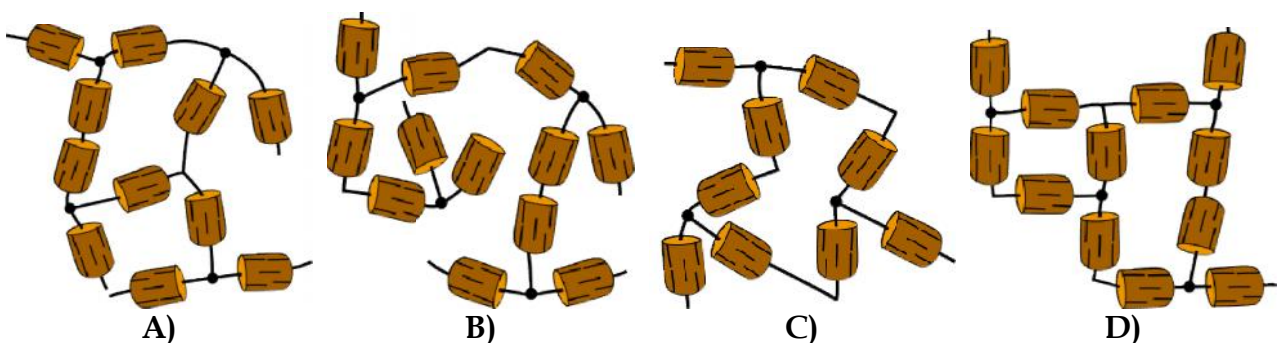
Each toy can be connected to a maximum of three other toys by using the three threads coming out of the corks.



The beaver wants to create a nice piece of art without cutting up any of the pieces.

Question / Challenge

Which piece of art can the beaver **not** make from the pieces?



T23. Cooking

Bobby Beaver got a cooker for Christmas. He has to program the recipe step by step using instructions. Every instruction starts with a number. If any ingredients are needed for the task, the appropriate letter of the ingredient has to be given inside brackets, after the number. Every instruction has to be on a separate line.

For example: the sequence of instructions “*Mix the flour and the oil*”. “*Cook for the appropriate time*” has to be programmed in the following way:

4 (F, SO)
2

Instructions:		Ingredients:	
1. Add		O. Onion	SC. Sour cream
2. Cook for the appropriate time		P. Paprika	F. Flour
3. Fry		W. Water	SO. Sunflower oil
4. Mix		C. Chicken	S. Spices
5. Turn off			

Question / Challenge

Bobby is going to cook Paprika Chicken with this recipe:

- Fry the onion in the sunflower oil.
- Add paprika, water and the chicken.
- Cook for the appropriate time.
- Mix the sour cream and the flour together in a bowl.
- Add the mixed sour cream and the flour to the frying pan.
- Add spices.
- Cook for the appropriate time.
- Turn it off.

Which of the following will result in a Paprika Chicken?

		3 (SO, O)	3 (SO, O)
	3 (SO, O)	1(P, W, C)	1(P, W, C)
2	1(P, W, C)	2	2
3(SO, O)	2	4(SC, F)	4(SC, C)
2	4(SC, C)	1 (SC, F)	1
4(SC, F)	1 (SC, F)	1 (S)	5
2	2	2	2
5	5	5	5
A)	B)	C)	D)

T24. Mug Collections



Beaver Chuck is very enthusiastic about collecting mugs from many cities around the world. Today, he decided to re-examine his collection and classify them according to their color and the continent that each mug came from. Chuck felt exhausted after classifying and counting the mugs for each category. He left his notes on his desk and took a nap. However, his naughty little brother Morgan altered just one of the numbers during Chuck's nap. The result is in the table below.

	red	yellow	green	blue	brown	total
Asia	2	1	0	2	2	7
Europe	0	1	1	2	2	6
North America	1	2	3	0	1	6
South America	0	1	2	1	0	4
Africa	1	0	0	0	0	1
Oceania	0	2	1	1	0	4
total	4	7	6	6	5	28

Question / Challenge

Which is the number altered by Morgan?

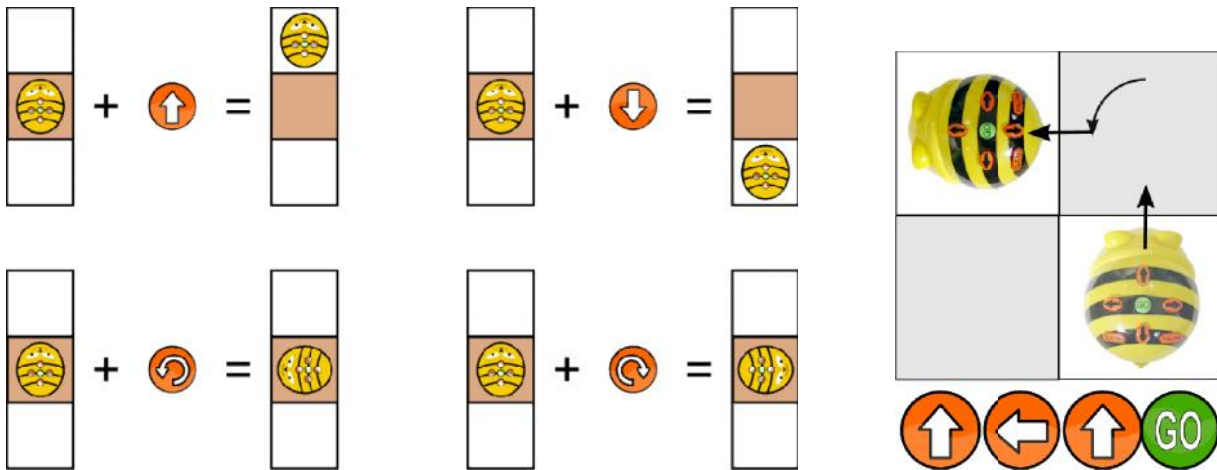
- A) One of the numbers from Asia or Europe
- B) One of the numbers from North America
- C) One of the numbers from South America
- D) One of the numbers from Africa or Oceania

T25. Return back

A robotic bee has 4 arrow buttons on its back. The bee moves as shown below:



Time Allowed: 150 minutes



A sequence of pressed buttons is a program that the bee remembers.

There is another button GO on its back which starts a motion according to the program.

In the example on the right, the bee first moves forward, then turns left and moves forward.

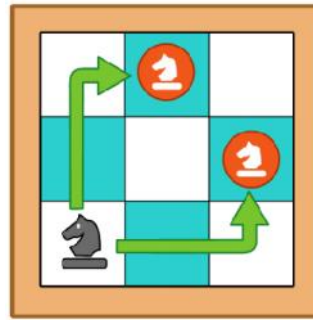
Another press on the GO button causes the same motion.

Four children played with their bees. Each of them made his/her own program for the bee. They pressed GO button and their bees moved. Then they pressed the GO button once more but only one of the bees returned back to the field where it was standing at the beginning.

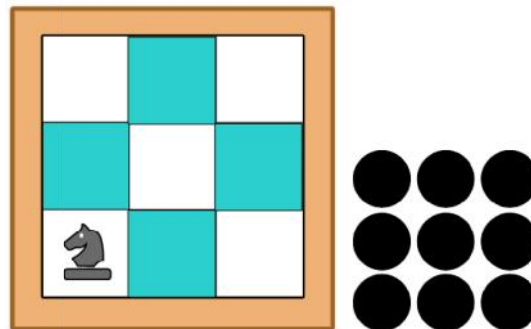
Question

Which of these button sequences returned the bee to its starting field?

- A)
- B)
- C)
- D)



Question / Challenge



Above is the initial position. Will has to move first. Blake is trying to block Will as soon as possible.

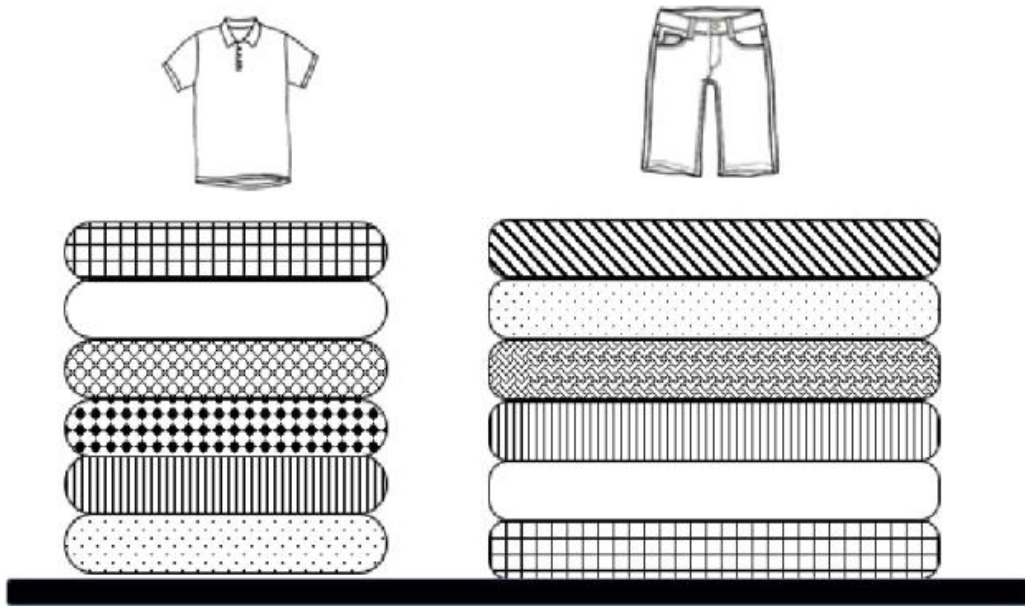
What is the maximum number of moves that Will can make before Blake has made it impossible to move any further?

- A) 3 B) 4 C) 5 D) 6

T28. Washing Clothes

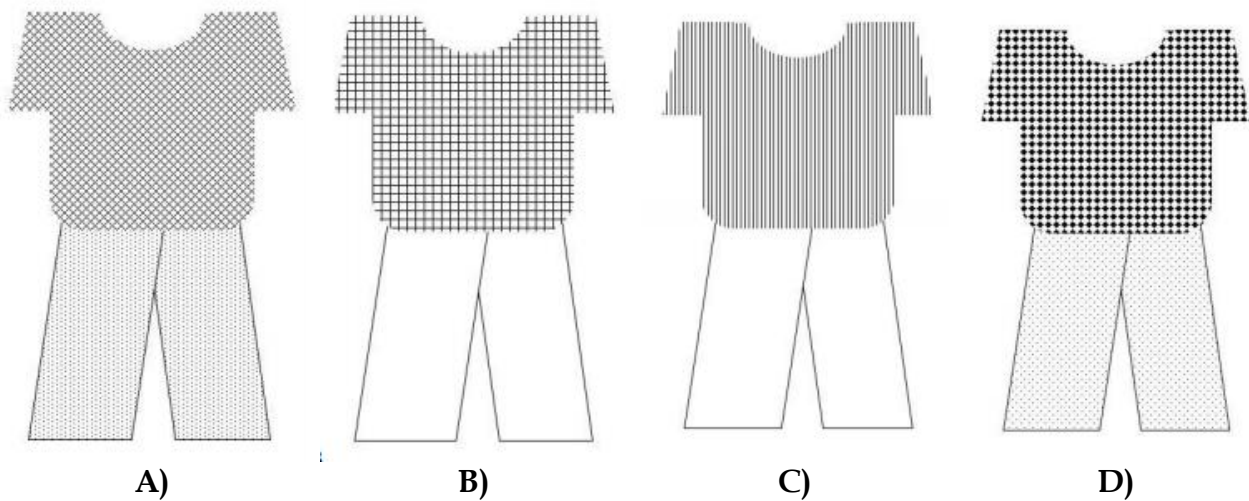
Bobby Beaver's wardrobe on a Sunday evening looks as in the picture. He puts on a clean shirt and pants every morning and he always picks the one on the top of the pile. He drops them into the cleaning basket each evening. His mom washes the dirty clothes each Tuesday and Friday afternoon. These need a whole day to get dry before putting them in the wardrobe back to the top of the pile in the same order they were thrown in the cleaning basket.

This particular week the washing basket was empty on Sunday evening.



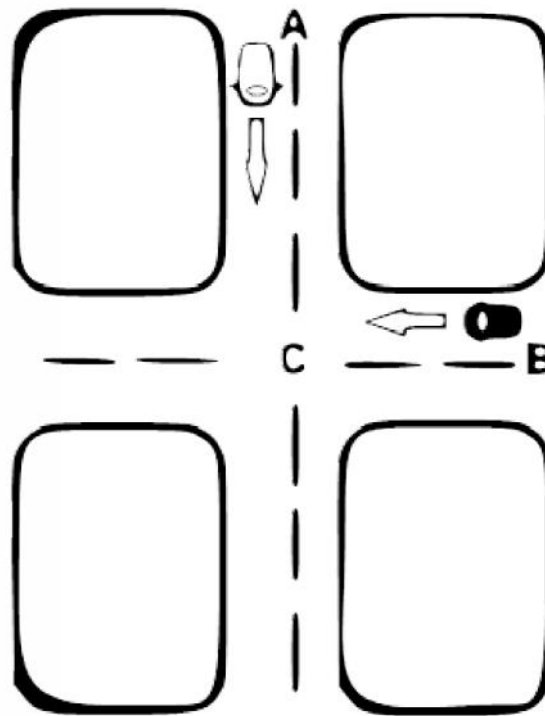
Question / Challenge

The next Saturday, Bobby visits his best friend Willy. Which outfit will he wear?



T29. Cars

- It takes 3 minutes for a white car to go from A to C.
- It takes 2 minutes for a black car to go from B to C.
- When a white car crosses point C, the next white car departs from A and moves to C. When a black car crosses point C, the next black car departs from B and moves to C.
- If the cars arrive at the intersection at the same time, the black car passes first and the white car waits for 1 minute.



Question / Challenge

How many white cars and how many black cars will pass the intersection C in 12 minutes?

- A) 3 white, 6 black
- B) 4 white, 5 black
- C) 4 white, 6 black
- D) 5 white, 5 black

T30. Order of Cooking

Alfred the Beaver is preparing lunch for his friends. Alfred is beginning to panic because he does not know in what order to cook his food and his guests are arriving soon. He has only two stoves and wants to boil potatoes, cook soup, make a sauce and cook the meat. The recipe requires that the meat be cooked in the sauce and so the sauce must be ready before cooking the meat.



The potatoes need 30 minutes, the soup needs 80 minutes, the sauce is ready in 10 minutes and the meat needs to cook in the sauce for an additional 60 minutes to be ready.

Question/ Challenge

Given that the guests are going to arrive in 90 minutes, which of the following ways should Alfred cook his food so that all of his food is read when his guests arrive?

A)

	1 st step	2 nd step
Stove 1	potatoes	soup
Stove 2	sauce	meat

B)

	1 st step	2 nd step
Stove 1	sauce	soup
Stove 2	potatoes	meat

C)

	1 st step	2 nd step
Stove 1	meat	soup
Stove 2	potatoes	sauce

D)

	1 st step	2 nd step
Stove 1	meat	potatoes
Stove 2	soup	sauce