Pearl bracelet

For the grand ball, a princess put on the bracelet with light and dark pearls shown below. After the ball, she unfastened the bracelet between two pearls and put it in a chest. The next evening, she wanted to put on the same bracelet but there were many similar bracelets in the chest.



## QUESTION

Which of the following bracelets did the princess wear to the grand ball?

- A. 999999999999999
- c.

Well done! You got 1 star solving this task.

You can get an extra 2 stars completing the next page.

















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(e)





## Design your own fashion items



AND





Kate wants to buy her dream

dress. It must have:

**(†**)

- short sleeves
- more than 3 buttons
- stars on its sleeves

Four shops sell the dresses shown.



Dream dress

BeaverYorker



BeaverNova



#### QUESTION

- Which shop sells Kate's dream dress?
  - A. BeaverYorker
  - B. BeaverNova
  - **C.** B&B
  - D. Tom Teaver



SMART

FUTURES





Beever the bee flies to a field of flowers to collect pollen. On each flight, he visits only one flower and can collect up to 10 mg of pollen. He may return to the same flower more than once. The initial amount of pollen in each flower (in mg) is shown below.



## QUESTION

What is the maximum total amount of pollen that Beever can collect in 20 flights?

SMART

FUTURES

- **A.** 179 mg
- B. 195 mgC. 196 mg
- **D.** 200 mg

- Keep it up!
- You got 1 star solving this task.

You can get an extra 2 stars solving the puzzles in the next page!

Bzzzz: Bee can make limited number of flights and it can only visit one flower per flight. It wants to collect maximum amount of pollen.



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FUTURES

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Car transportation

A new red car comes from a factory every 7 minutes. A new yellow car comes from another factory every 5 minutes. Both factories start working at the same time. As soon as a car comes from either factory it is loaded onto a transport truck in the order shown.



## QUESTION

niversity

What will the transport truck look like after loading? 0 0 0 0 Α. 010 В. 0 0 0 010 C. 010 D. (010) laynooth

SMART

Please, colour in your answers!



A red car every 9 minutes and a yellow car every 4 minutes



A red car every 3 minutes, a yellow car every 7 minutes, and a blue car every 5 minutes



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Selfish squirrels

16 squirrels live in a tree with five big holes one above the other. Each day all of the squirrels find out how many squirrels are in their hole and the neighbouring holes above and below it. The next night, each squirrel secretly either stays where they are or moves to a hole above or below it, whichever currently has the lowest number of squirrels in. If they are the same, the squirrels prefer their current hole. They also prefer a high hole to a low hole.

#### Example

Today there are 5, 0, 0, 4 and 7 squirrels in the holes from top to bottom as shown below.

Tomorrow all 5 squirrels in the top hole will move to the hole below.

The 7 squirrels from the bottom hole will move up.

The 4 squirrels from the hole next to the bottom will go up.

Today

5

0

0

4

Tomorrow

#### QUESTION

Here is a different situation that squirrels find themselves in. After how many days will all the squirrels end up together in the same hole?

- A. After 2 days
- B. After 3 days
- C. After 4 days
- D. Never



#### Way to go!



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# Height game

 $\mathbf{A} \mathbf{A} \mathbf{A}$ 

# Young beavers Amy, Beavy, Cuttree, Diggy, and Eary want to play a game with you. They all stand in a line. Then they each count how many taller beavers are in front of them and behind them. They give the results to you on a slip of paper:

Name	Number of taller beavers	
	in front	behind
Amy	1	2
Beavy	3	1
Cuttree	1	0
Diggy	0	0
Eary	2	0



## QUESTION

Beavy is standing as shown in the picture. In what order are all the beavers standing?

- A. Diggy, Cuttree, Amy, Beavy, Eary
- B. Amy, Cuttree, Diggy, Beavy, Eary
- C. Diggy, Amy, Cuttree, Beavy, Eary
- D. Diggy, Amy, Eary, Beavy, Cuttree

How did you solve it?

Well done! You got 1 star completing the task. Get an extra 2 stars by explaining how you solved it!

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