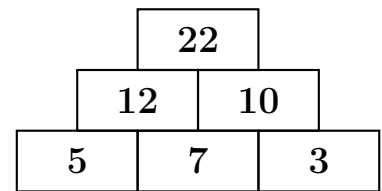


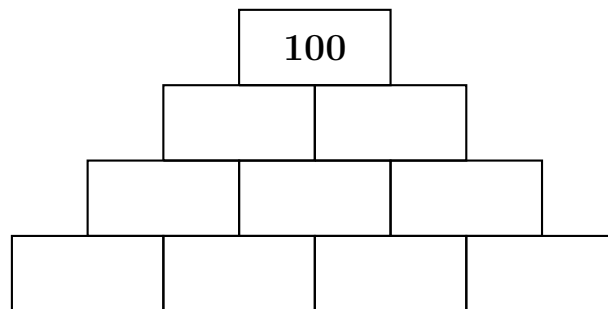
Number walls

Number walls are built according to the following rule: In every field is the sum of the two numbers underneath it.

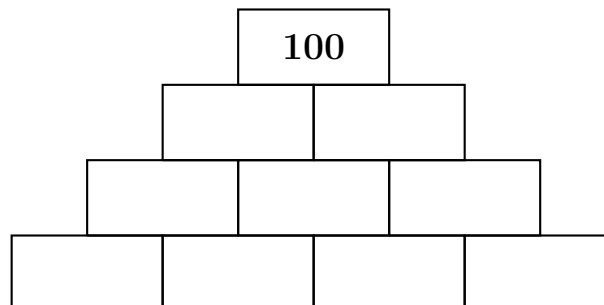
Example:



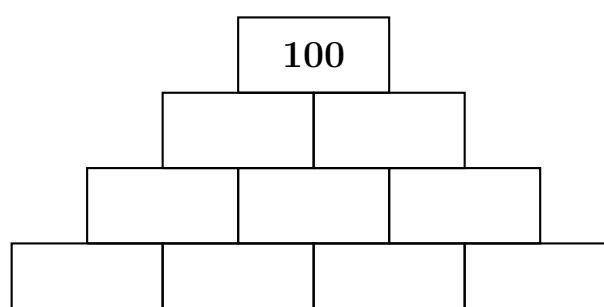
(a) Put suitable numbers into the number wall.



(b) Put suitable numbers into the number wall. But you are not allowed to use multiples of 10 (10, 20, 30,...).



(c) Use for your solution only numbers from the times tables.



Football match

- (a) Three football teams A, B, C play a tournament in which every team plays every other team exactly once. Write down all possible matches.
- (b) What are the possible arrangements of 1st, 2nd and 3rd price? Write down all possibilities.

*Note:* If two teams have the same number of points or goals, they toss a coin so that no two teams have the same number of points in the end.

Animal weights

The pigs (sow, boar and piglet) in a barn weigh 620 kg together. If you add the weight of the dog the total weight is 655 kg.

The boar weight is 7 times that of the dog.

Every piglet weighs 12 kg less than the dog.

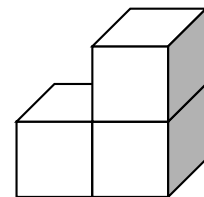
The sow has 7 piglets.

- (a) How many animals are there (pigs and dog together)?
- (b) What is the weight of the dog?
- (c) What is the weight of the boar
- (d) What is the weight of a piglet?
- (e) What is the weight of the sow?

Cube triplets

A cube triplet looks like this:

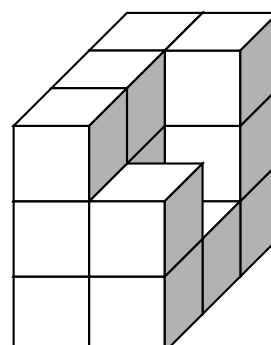
It consists of three cubes of the same size glued together as in the picture.



- (a) Can you turn the following construction into a rectangular box?

yes

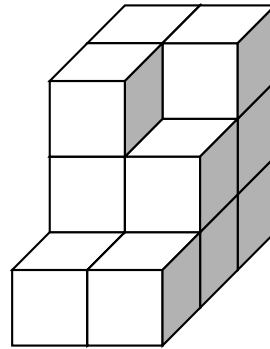
no



(b) Can you turn the following construction into a rectangular box using two cube triplets?

yes

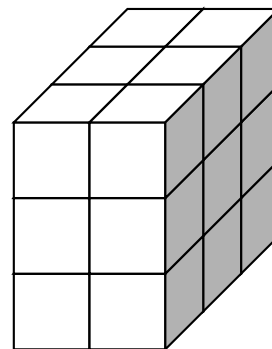
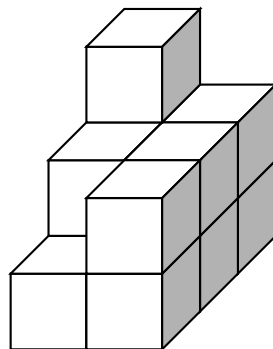
no



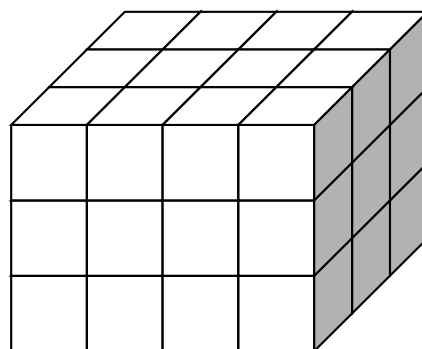
(c) Can you turn the construction on the left into the rectangular box on the right using two cube triplets? If yes, colour the two cube triplets in the box using two different colours.

yes

no



(d) How many cube triplets are necessary to build the following box?



Mini-Sudoku

Rule:

Our mini-sudoku consists of 16 small squares. The goal is to fill in the sudoku with numbers from 1 to 4 such that every row, every column and every marked 2 x 2 square all of the numbers from 1 to 4 occur.

(a) Fill in the empty squares according to the rule above.

	4		1
1		3	
2			
4			

(b) Fill in the empty squares according to the rule above to obtain a sudoku that is different from the one in (a)
