

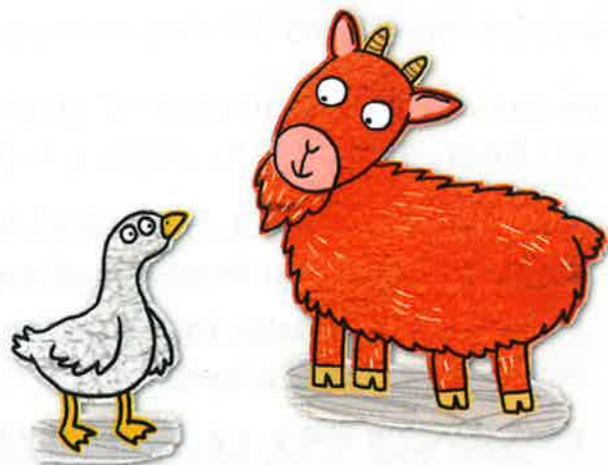
Alternative solutions

- List possible combinations of variables
- Use simple formulae



Hint

Try to be systematic – perhaps using a table to record your results.



challenge 1

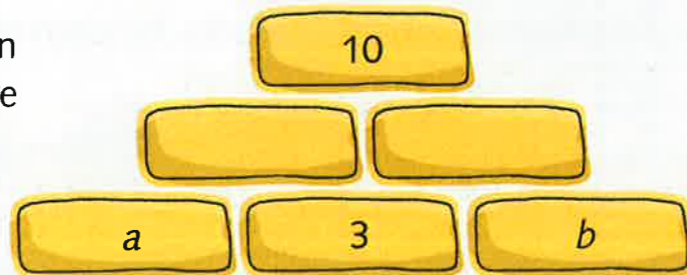
There are 12 legs in the farmyard. Write an equation to show the possible combinations of chickens and sheep. Use c for the number of chickens and s for the number of sheep. List the solutions for c and s .

challenge 2

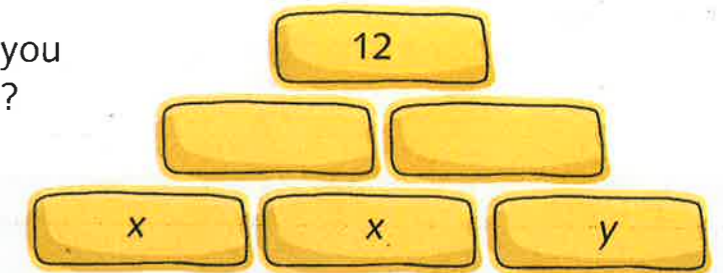
1 There are 28 legs in the farmyard. Write an equation to show the possible combinations of ducks and goats. Use d for the number of ducks and g for the number of goats. List the solutions for d and g .

2 Here are some addition algebra 'brick wall' problems. The numbers in two bricks that are side by side are added together and make the answer in the brick above.

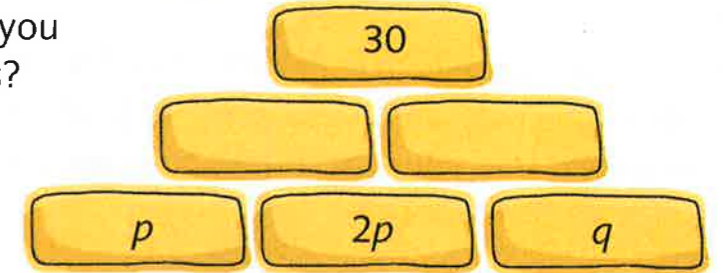
a How many different solutions can you find for a and b if a and b are positive integers?



b How many different solutions can you find if x and y are positive integers?



c How many different solutions can you find if p and q are positive integers?



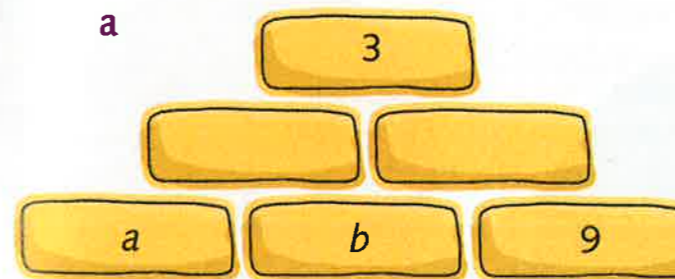
d How can you be sure that you have found all the possible answers?

challenge 3

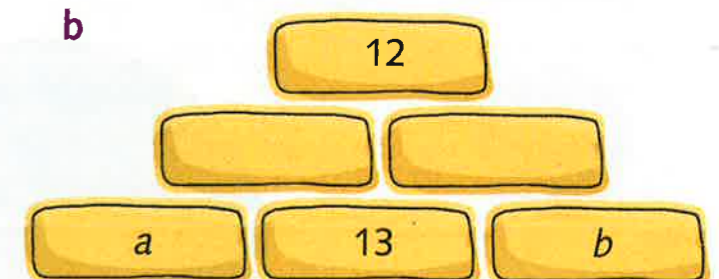
1 There are 10 legs in the farmyard. Write an equation to show the possible combinations of chickens, ducks, sheep and goats. Use c for the number of chickens, d for the number of ducks, s for the number of sheep and g for the number of goats. List the solutions for c , d , s and g .

2 Here are some subtraction algebra 'brick wall' problems. The difference between the two numbers in adjacent bricks is calculated to make the answer in the brick above. Work with a partner to find three different solutions to each problem.

a



b



3 Can you and a partner find three different solutions to this multiplication algebra 'brick wall' problem?

