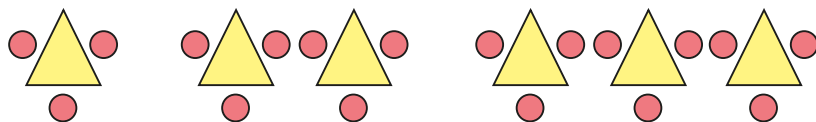


1 Scott builds a pattern using triangles and circles.



- a) Draw the next diagram in the pattern.
 b) Scott records the number of triangles and circles in a table.

Complete the table.

Number of triangles	1	2	3	4	5
Number of circles	3				

- c) c = number of circles and t = number of triangles
 Which formula describes the pattern?

$c = t + 3$

$c = 3t$

$t = 3c$

$t = 3 + c$

- d) How many circles will there be with 10 triangles?
 Show your working.

2 a) Complete the table.

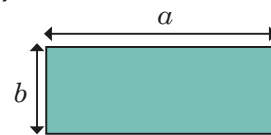
Number of weeks	1	2	3	5	10
Number of days	7				

- b) Complete the formula to show the relationship between days (d) and weeks (w).

$$d = \boxed{} w$$

- c) How many days are there in 32 weeks?

3 a) Write a formula for the area and perimeter of the rectangle.

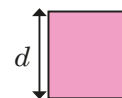


area = _____

perimeter = _____

- b) Work out the area and perimeter of the rectangle if $a = 17$ cm and $b = 8$ cm.
 Show your workings.

4 a) Write a formula for the area and perimeter of the square.

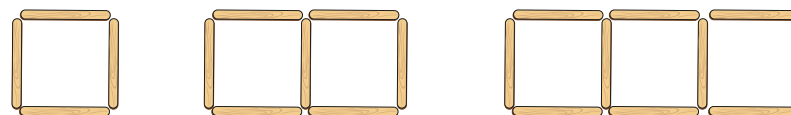


area = _____

perimeter = _____

- b) Work out the area and perimeter of the square if $d = 8.5$ cm.
 Show your workings.

5 Dora makes a square pattern using lolly sticks.

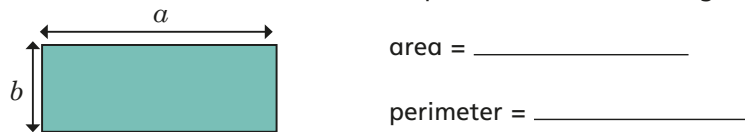


She records the number of squares and sticks in a table.

- a) Continue the pattern and complete the table.

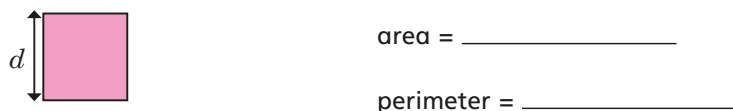
Number of squares, s	1	2	3	4	5
Number of lolly sticks, l	4	7			

- 3 a) Write a formula for the area and perimeter of the rectangle.



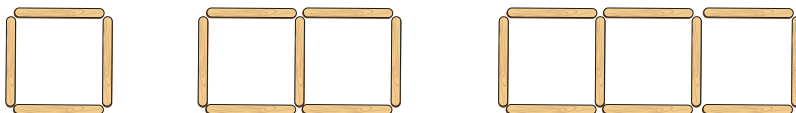
- b) Work out the area and perimeter of the rectangle if $a = 17$ cm and $b = 8$ cm.
Show your workings.

- 4 a) Write a formula for the area and perimeter of the square.



- b) Work out the area and perimeter of the square if $d = 8.5$ cm.
Show your workings.

- 5 Dora makes a square pattern using lolly sticks.

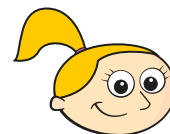


She records the number of squares and sticks in a table.

- a) Continue the pattern and complete the table.

Number of squares, s	1	2	3	4	5
Number of lolly sticks, l	4	7			

- b)



You need 35 lolly sticks to make 10 squares. I multiplied the number needed for 2 squares by 5

Show that Eva is wrong.

How many sticks are needed to make 10 squares?

- c) Which formula describes the pattern?

$$l = 3s + 1$$

$$l = 4s + 1$$

$$l = 3(s + 1)$$

- 6 Here are a dog walker's prices.

Walkies
Dog Walker

£12 per hour
plus £5 travel

- a) How much does the dog walker charge for a 2-hour job?
b) Write a formula to show the cost (c) for (h) hours.

- 7 The Wooden Letter Company sells wooden letters for £2 each, plus £1.50 for delivery of each order.



- a) Whitney places an order for the letters to spell out her name.
How much does it cost?
b) Write a formula to show the cost (c) for the number of letters (n).