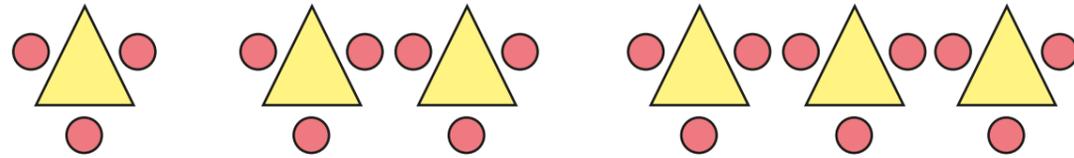
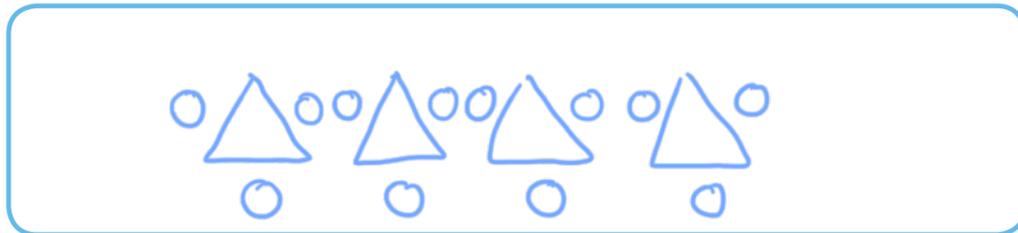


1 Scott builds a pattern using triangles and circles.



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	6	9	12	15

c) c = number of circles and t = number of triangles

Circle the formula that describes the pattern.

$c = t + 3$
 $c = 3t$
 $t = 3c$
 $t = 3 + c$

d) How many circles will there be with 10 triangles?

30

Show your working.

$3 \times 10 = 30$

2 a) Complete the table.

Number of weeks	1	2	3	5	10
Number of days	7	14	21	35	70

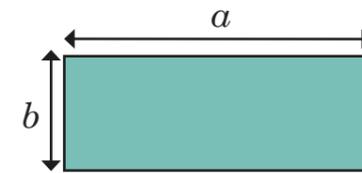
b) Complete the formula to show the relationship between days (d) and weeks (w).

$$d = 7w$$

c) How many days are there in 32 weeks?

224

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



area = ab

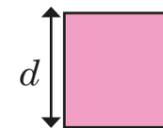
perimeter = $2a + 2b$

b) Work out the area and perimeter of the rectangle if $a = 17$ cm and $b = 8$ cm

Show your workings.

area = 136 cm^2 perimeter = 50 cm

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



area = d^2

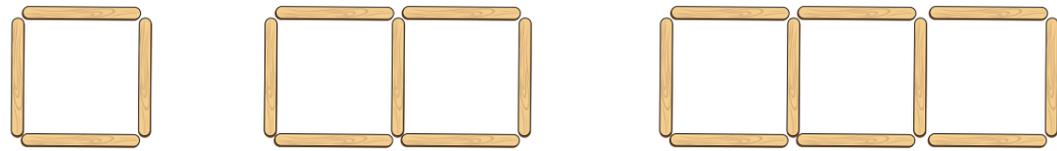
perimeter = $4d$

b) Work out the area and perimeter of the square if $d = 8.5$ cm

Show your workings.

area = 72.25 cm^2 perimeter = 34 cm

- 5 Dora makes a square pattern using lolly sticks.

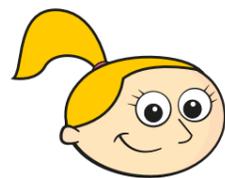


She records the number of squares and sticks in a table.

- a) Continue the pattern and complete the table.

Number of squares, s	1	2	3	4	5
Number of lolly sticks, l	4	7	10	13	16

- b)



Eva

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?

31

- c) Circle the formula that 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?

£29

- b) Write a formula to show the cost (c) for (h) hours.

$c = 12h + 5$

- 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?

£ 15.50

- b) Write a formula to show the cost (c) for the number of letters (n).

$c = 2n + 1.5$

