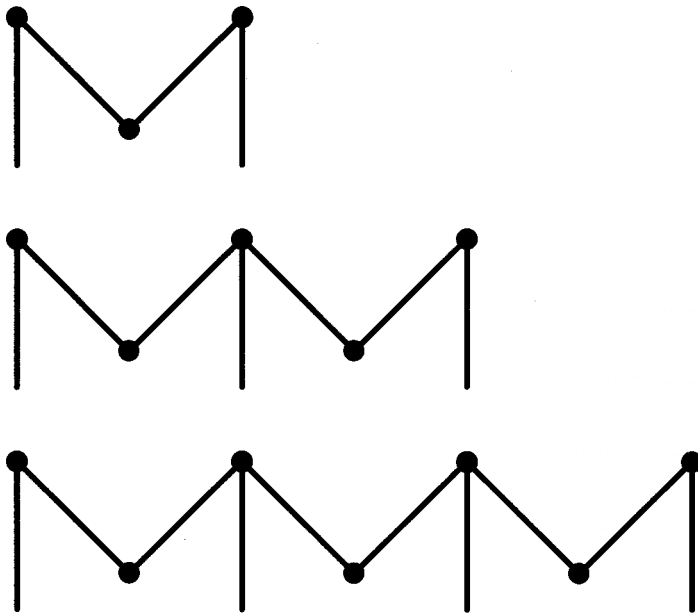


Mhairi makes necklaces in M-shapes using silver bars.



2008 P2 Q4

(a) Complete the table below.

Number of M-shapes (m)	1	2	3	4		15
Number of bars (b)	4	7				

(b) Write down a formula for calculating the number of bars (b) when you know the number of M-shapes (m).

(c) Mhairi has 76 silver bars.

How many M-shapes can she make?

2

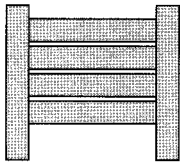
2

2

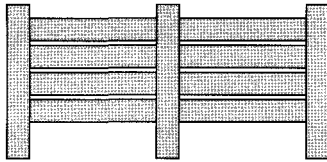
Ans (a) 10, 13,, 46 (b) $b = 3m + 1$ (c) 25

A children's play area is to be fenced.

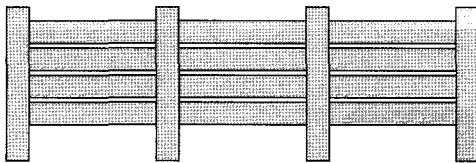
The fence is made in sections using lengths of wood, as shown below.



1 section



2 sections



3 sections

2007 P1 Q6

(a) Complete the table below.

Number of sections (s)	1	2	3	4	5		12
Number of lengths of wood (w)	6	11					

(b) Write down a formula for calculating the number of lengths of wood (w), when you know the number of sections (s).

(c) A fence has been made from 81 lengths of wood.

How many sections are in this fence?

You must show your working.

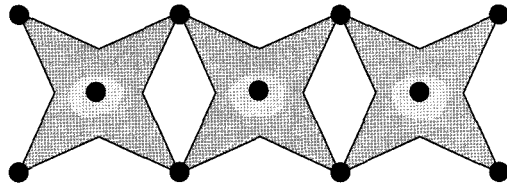
Ans (a) 16, 21, 26, ..., 61 (b) $w = 5s + 1$ (c) 16

2

2

2

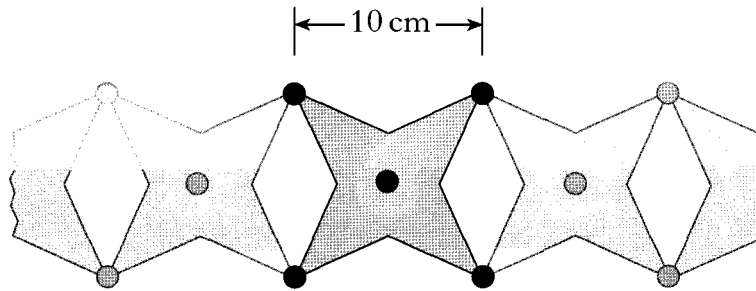
Jenni is making a wallpaper border.
She is using stars and dots to make the border.



(a) Complete the table below.

Number of stars (s)	1	2	3	4	5
Number of dots (d)			11		

- (b) Write down a formula for calculating the number of dots (d), when you know the number of stars (s).
- (c) Each star is 10 centimetres long.



The wallpaper border Jenni makes is 300 centimetres long.

- (i) How many stars does Jenni need?
- (ii) How many dots does she need?

2006 P1 Q4

2

2

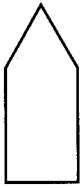
1

2

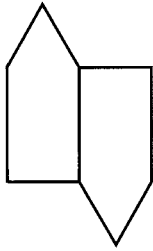
Ans (a) 5, 8, 11, 14, 17 (b) $d = 3s + 2$ (c)(i) 30 (ii) 92

Sandra is working on the design for a bracelet.
She is using matches to make each shape.

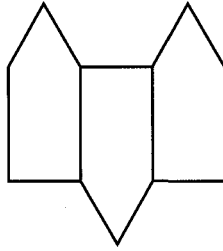
Shape 1



Shape 2



Shape 3



Shape 4

2005 P1 Q3

- (a) Draw shape 4.
(b) Complete the following table.

Shape number (s)	1	2	3	4	5	6		13
Number of matches (m)	5	9			21			

- (c) Find a formula for calculating the number of matches, (m), when you know the shape number, (s).
(d) Which shape number uses 61 matches?

You must show your working.

1
2
2
2

Ans (b) 5, 9, 13, 17, 21, 25, ..., 53 (c) $m = 4s + 1$ (d) 15

2003 P1 Q8

The international sizes for writing paper are shown in the list below.
All measurements are in millimetres.

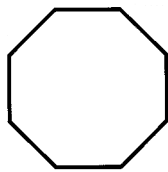
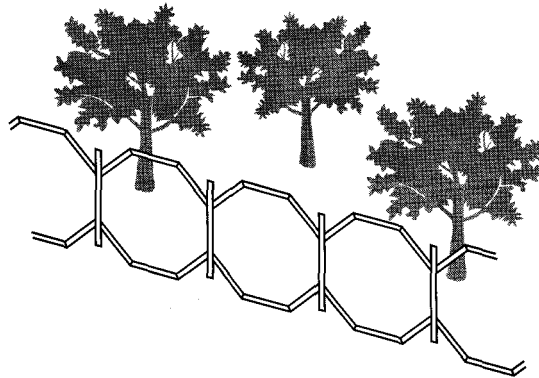
A3	297 × 420
A4	210 × 297
A5	148 × 210
A6	105 × 148
A7	74 × 105
A8	52 × 74
A9	37 × 52
A10	

By inspecting the list, write down the measurements for A10 writing paper.

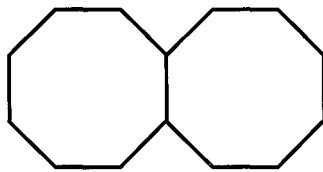
2

Ans 26 × 37

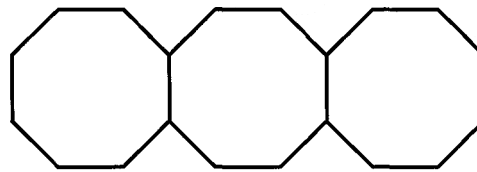
A metal fence for a garden is made by joining iron bars as shown below.



1 Section



2 Sections



3 Sections

2002 P2 Q4

(a) Complete this table.

Number of sections (s)	1	2	3	4		12
Number of iron bars (b)	8		22			

(b) Find a formula for calculating the number of iron bars (b), when you know the number of sections (s).

(c) A fence has been made by joining 176 iron bars.

How many sections are in this fence?

2

2

2

Ans (a) 8, 15, 22, 29, ..., 85 (b) $b = 7s + 1$ (c) 25