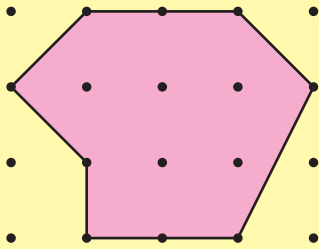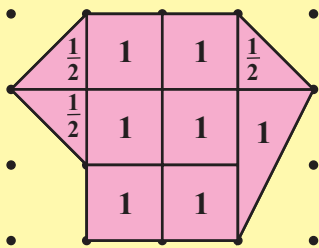# Pick's Rule

In 1899, George Pick discovered a rule that can be used to find the area of shapes drawn on dot paper. Find the area of the shapes drawn on this 1 cm square dot paper and record them in the table below.
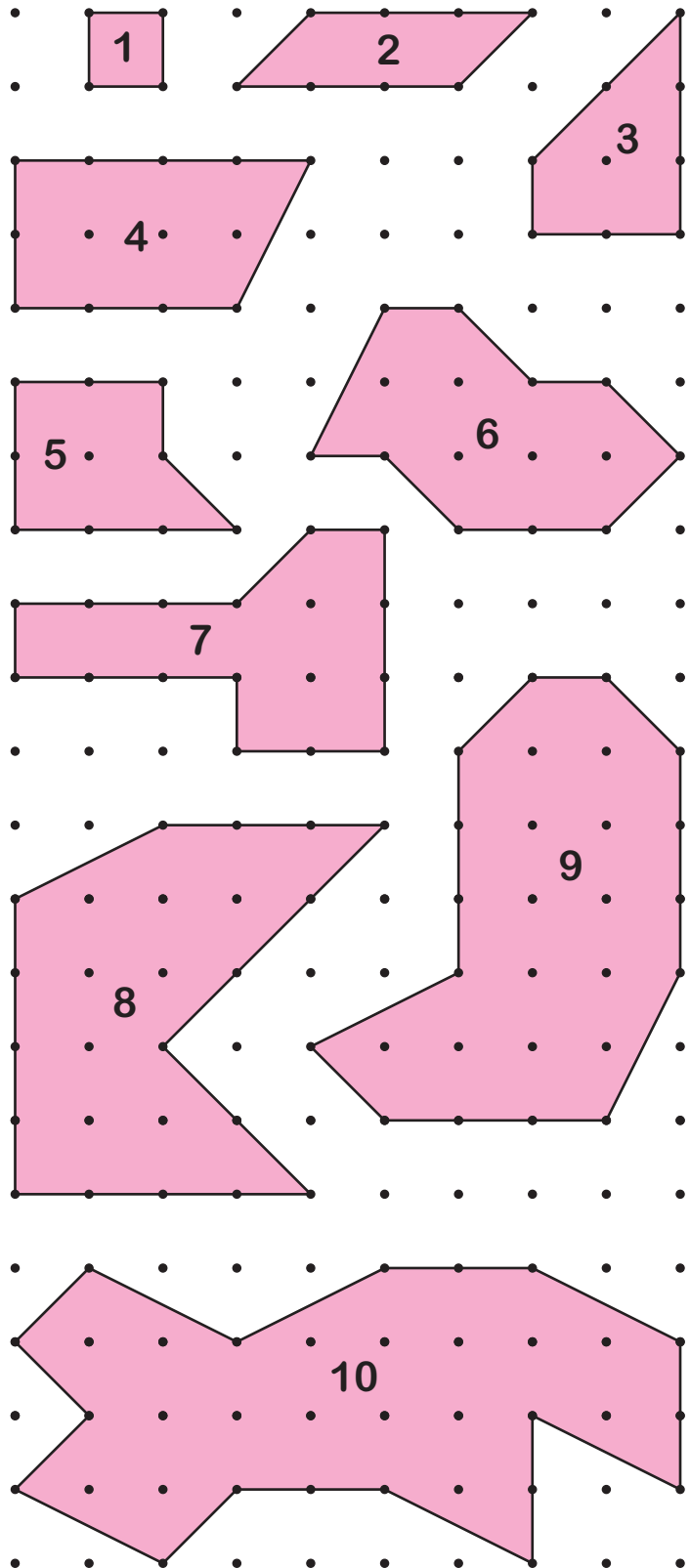
Example

The area of this shape can be found by dividing it into squares and triangles

Area = $8\frac{1}{2}$ cm^2

Shape	Area (cm^2)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

Pick's Rule

Complete the table below for the shapes on the previous page where:
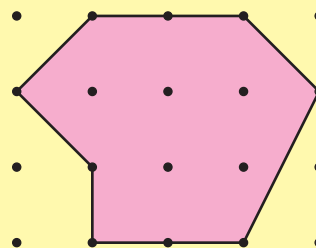
A = the area of the shape
p = the number of points on the border of the shape
n = the number of points inside the shape

Shape	A	p	n
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

Example

$A = 8\frac{1}{2}$
$p = 9$
$n = 5$

Using the information in this table, try to find a rule relating the area of a shape (A) to the number of points on its border (p) and number of points inside the shape (n).
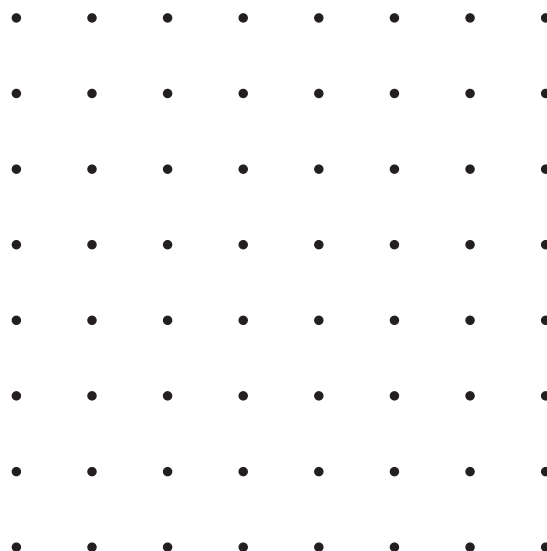
$A =$

This is called **PICK'S RULE**.

Using this rule, what would be the area of a shape with 12 dots on its border and 3 dots inside it?

Draw this shape on the dot grid and label it shape **A**.

Use the rule to find the area of a shape with 10 dots on its border and 2 dots inside it.

Draw this shape on the dot grid and label it shape **B**.

Pick's Rule

Use Pick's Rule to complete this table and draw the shapes on the dot grid below.

Shape	A	p	n
C	2	6	0
D	8	12	3
E	5	8	2
F	4.5	9	1
G	3.5	7	1
H	7.5	11	3
I	9	12	4
J	8	12	3
K	8	16	1