

### Practice

Copy and complete the table. State a rule for each pattern.

1.	$x$	1	2	3	4	5	6
	$y$	4	8	12			
2.	$s$	3	5	7	9	11	13
	$t$	8	10	12			

Copy and complete the table. Then, use the variables to write a formula for each pattern.

3.	Hours ( $h$ )	1	2	3	4	5	6
	Wages ( $w$ )	9	18	27			
4.	Number of Tickets ( $n$ )		2	4	6	8	
	Cost ( $c$ )		42	84			

5. The formula for the area of a rectangle is  $A = l \times w$ .

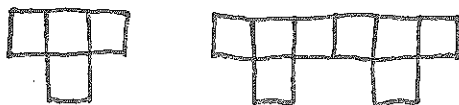
- Find  $A$  when  $l = 9$  m and  $w = 6$  m.
- Find  $l$  when  $A = 30$  m<sup>2</sup> and  $w = 5$  m.
- Find  $w$  when  $A = 24$  m<sup>2</sup> and  $l = 8$  m.

6. The formula for the perimeter of a rectangle is  $P = 2(l + w)$ .

- Find  $P$  when  $l = 11$  m and  $w = 7$  m.
- Find  $w$  when  $P = 80$  m and  $l = 23$  m.
- Find  $l$  when  $P = 74$  m and  $w = 17$  m.

### Problems and Applications

7. The first figure is made up of one T-shape. It has a perimeter of 10 units. The second figure is made up of 2 connected T-shapes, and so on.



- Copy the table. Complete it by finding the perimeters of the figures with the given numbers of T-shapes.

Number of T-Shapes	Perimeter
1	10
⋮	
5	

b) What is the increase in the perimeter each time a T-shape is added?

c) What is the perimeter of the figure made from 6 T-shapes? 7 T-shapes?

d) Write a formula for the perimeter in the form  $P = \triangle \times n + \square$ , where  $n$  is the number of T-shapes in the figure, and  $\triangle$  and  $\square$  represent two different numbers.

8. a) Copy and complete the table.

Number of Triangles	Figure	Perimeter
1		3
2		4
3		5
⋮		
6		

b) Write a formula for the perimeter in terms of the number of triangles.

c) What is the perimeter of the figure made from 30 triangles?

d) How many triangles are in the figure with a perimeter of 42 units?

9. a) Copy and complete the table.

Number of L-Shapes	Figure	Perimeter
1		8
2		12
3		16
⋮		
6		

b) Write a formula for the perimeter in terms of the number of L-shapes.

c) What is the perimeter of the figure made from 15 L-shapes?

d) How many L-shapes make a figure with a perimeter of 88 units?