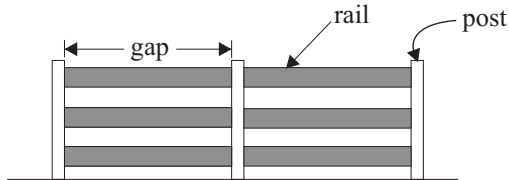


Name: _____

1. A post and rail fence is to be built as shown below.



There are three rails between each set of posts.

- (a) Complete this table.

Number of gaps between posts (G)	Number of posts (P)	Number of rails (R)
1	2	3
2	3	6
3		
4		
10		
20		

- (b) Find a rule connecting the number of posts, P , and the number of gaps, G .

$P =$

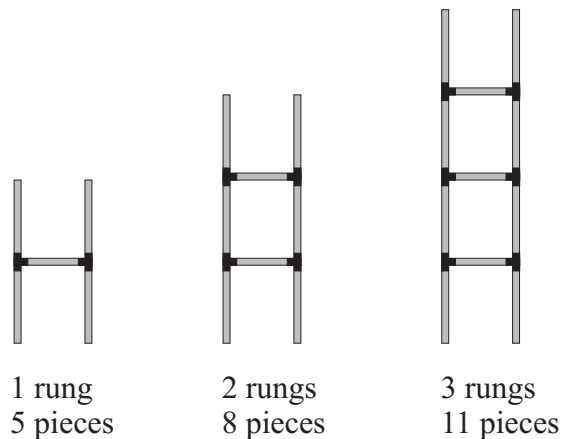
- (c) Find a rule connecting the number of rails, R , and the number of gaps, G .

$R =$

- (d) Find a rule connecting the number of rails, R , and the number of posts, P .

$R =$

2. A ladder company has produced an extendable ladder. It is made using pieces that can be fitted together. The pieces are all the same length. The diagram below shows different lengths of the ladder. The number of rungs and pieces are listed.



- (a) Complete this table showing the number of pieces needed for different numbers of rungs.

r = number of rungs
 p = number of pieces

r	p
1	5
2	8
3	11
4	
5	
6	

- (b) Find a rule connecting p and r .

$p =$

- (c) How many pieces would be needed for a ladder that had 12 rungs?