

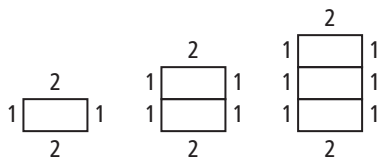
4-2

Practice

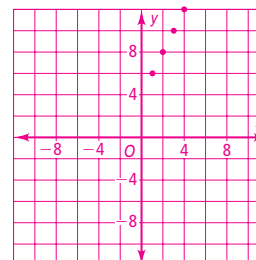
Form K

Patterns and Linear Functions

1. For the diagram below, find the relationship between the number of shapes and the perimeter of the figure they form. Represent this relationship using a table, words, an equation, and a graph.



1 rectangle 2 rectangles 3 rectangles



Rectangles	1	2	3	4	5	6	9	n
Perimeter	6	8	10	12	14	16	22	$2n + 4$

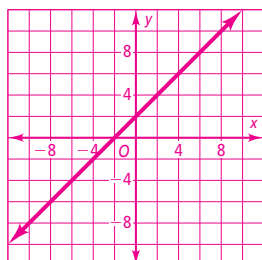
The perimeter of the shapes is twice the number of rectangles plus four.
 $P = 2n + 4$

For each table, determine whether the relationship is a function. Then represent the relationship using words, an equation, and a graph.

2.

x	y
0	2
1	3
2	4
3	5

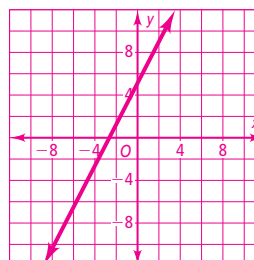
Function; each y value is 2 more than the x value; $y = x + 2$



3.

x	y
0	5
1	7
2	9
3	11

Function; each y value is 5 more than twice the x value; $y = 2x + 5$



4-2

Practice (continued)

Form K

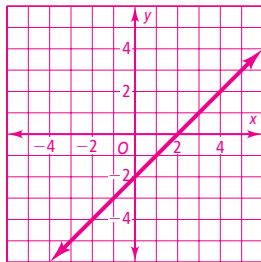
Patterns and Linear Functions

For each table, identify the dependent and independent variables. Then describe the relationship using words, an equation, and a graph.

4.

x	y
0	-2
1	-1
2	0
3	1

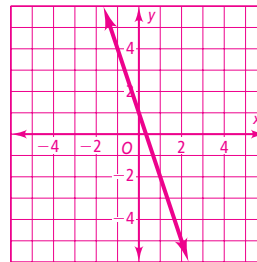
Independent variable: x ; dependent variable: y ; $y = x - 2$; The value of y is the value of x minus 2.



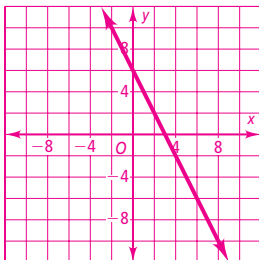
5.

n	m
0	1
1	-2
2	-5
3	-8

Independent variable: n ; dependent variable: m ; $m = -3n + 1$; The value of m is -3 times the value of n plus 1.



6. **Reasoning** Graph the set of ordered pairs (0, 6), (1, 4), (2, 2), (3, 0). Determine whether the relationship is a linear function. Explain how you know.



The relationship is a linear function; the graph of the ordered pairs forms a straight line.