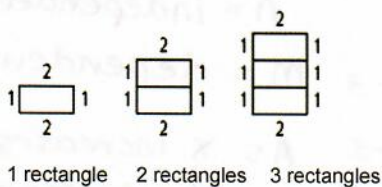


4-2 Practice

Form K

Patterns and Linear Functions

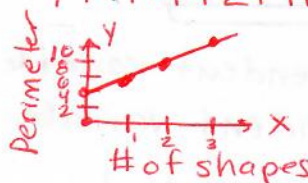
1. For the diagram below, find the relationship between the number of shapes and the perimeter of the figure they form. Represent this relationship using a table, words, an equation, and a graph.



# of shapes	perimeter
1	$1+2+1+2=6$
2	$1+1+2+1+1+2=8$
3	$1+1+1+2+1+1+1+2=10$

As shapes increase by 1, the perimeter increases by 2.

$$y = 2x + 4$$



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
- As x increases by 1, y increases by 1

$$y = 1x + 2$$

rate of change initial value

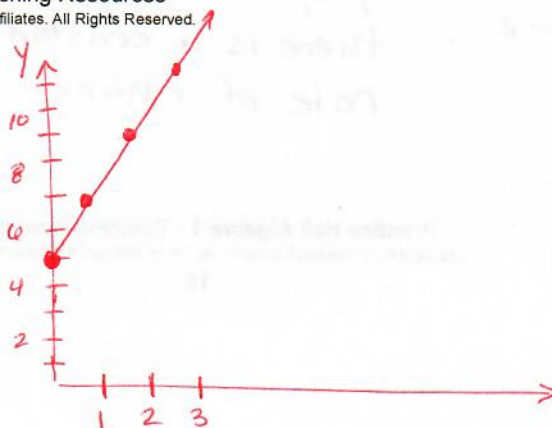
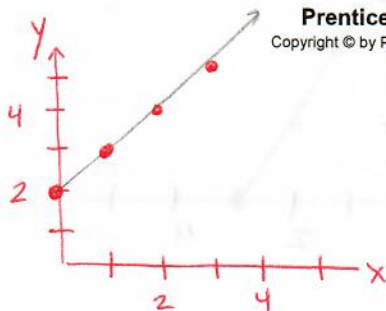
3.

x	y
0	5
1	7
2	9
3	11

- Function
- As x increases by 1, y increases by 2

$$y = 2x + 5$$

rate of change ($\frac{2}{1}$) initial value



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

+1 < > +1
+1 < > +1
+1 < > +1

5.

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

+1 < > -3
+1 < > -3
+1 < > -3

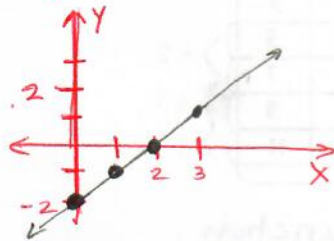
*n = independent variable
m = dependent variable*

*As x increases by 1
y decreases by 3*

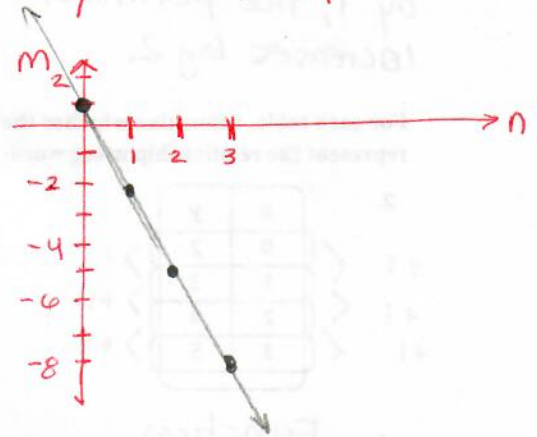
*x = independent variable
y = dependent variable*

*As x increases by 1
y increases by 1*

y = 1x - 2



y = -3x + 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.

x	y
0	6
1	4
2	2
3	0

+1 < > -2
+1 < > -2
+1 < > -2

*As x increases by 1
y decreases by 2*

y = -2x + 6

** Yes, linear because
there is a constant
rate of change*

