

4.2 Linear Functions and Tables
Examples

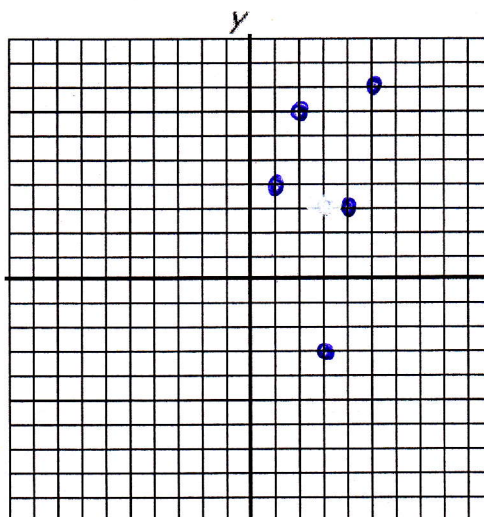
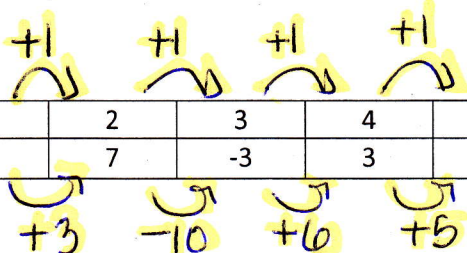
$$M = \frac{\text{change in } y}{\text{change in } x}$$

Name: _____
Date: _____ Period: _____

Directions: Plot the points and determine if the function is a linear function.

1.

x	1	2	3	4	5
f(x)	4	7	-3	3	8



Cannot draw a straight line through ALL the points → Not a linear function

a) Is it Linear?

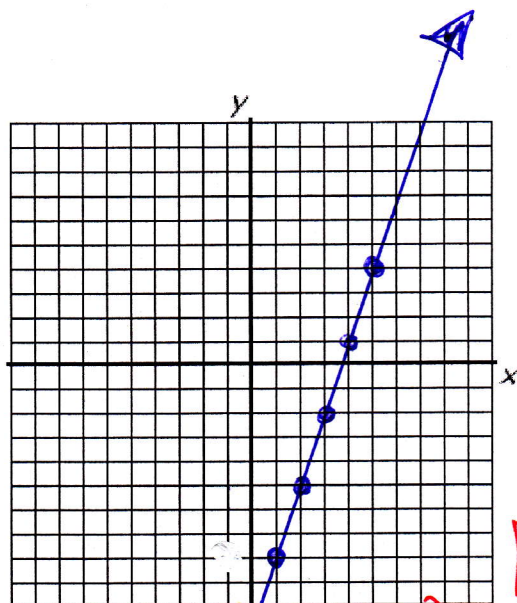
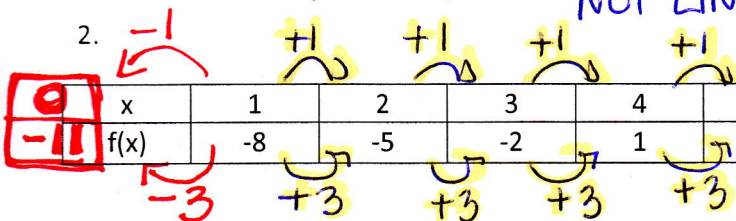
b) If linear, is it increasing or decreasing?

c) If it is linear identify m and b.

$m = \frac{3}{1} \neq \frac{-10}{1}$ Not a constant rate of change → NOT LINEAR

2.

x	1	2	3	4	5
f(x)	-8	-5	-2	1	4



$b = -11$

Note $m \Rightarrow$ rate of change $b \Rightarrow$ y-intercept

a) Is it Linear?

Yes!

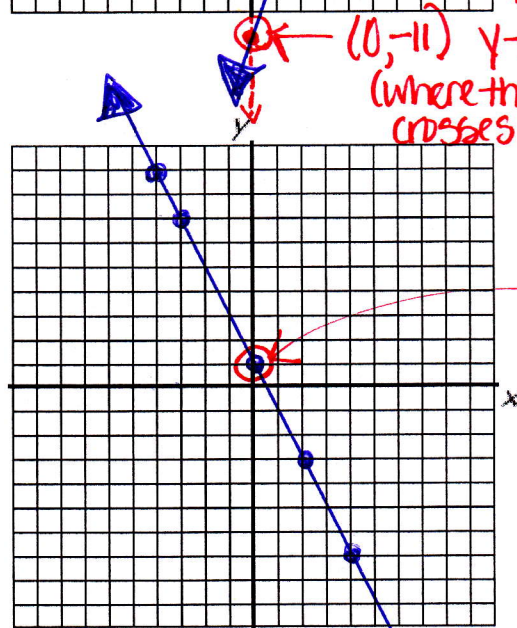
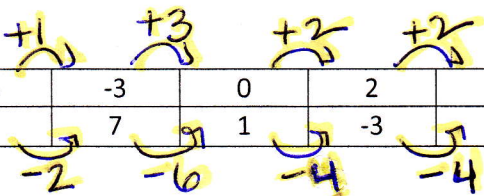
b) If linear, is it increasing or decreasing?

c) If it is linear identify m and b.

$m = \frac{3}{1} = 3$ $b = -11$

3.

x	-4	-3	0	2	4
f(x)	9	7	1	-3	-7



$(0, 1)$ y-intercept $b = 1$

a) Is it Linear?

Yes!

b) If linear, is it increasing or decreasing?

c) If it is linear identify m and b.

$m = \frac{-2}{1} = \frac{-6}{3} = \frac{-4}{2} = -2$ $b = 1$
constant rate of change!