

2.)

x TEMPERATURE	10	15	20	25
y VELOCITY	337	340	343	346

TEMPERATURE, VELOCITY OF SOUND, FOR EVERY INCREASE OF 5°C THE VELOCITY OF SOUND INCREASE BY 3 m/s

$$m = \frac{\Delta y}{\Delta x} = \frac{340 - 337}{15 - 10} = \frac{3}{5}$$

$$y = mx + b$$

$$y = \frac{3}{5}x + b$$

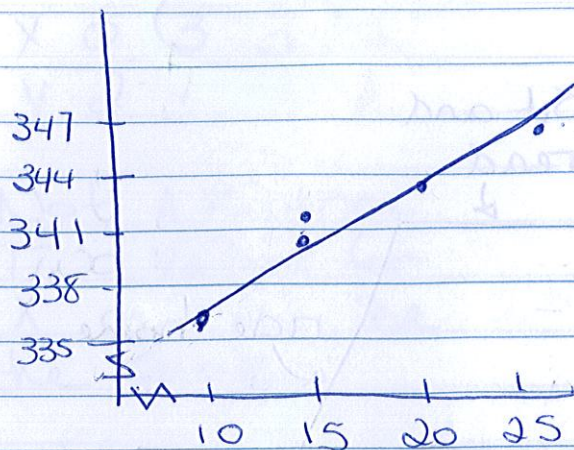
B IS WHERE LINE
 CROSSES y AXIS SO
 WHERE $x=0$

To FIND B

$$10 - 5 = 5 \quad -5 = 0$$

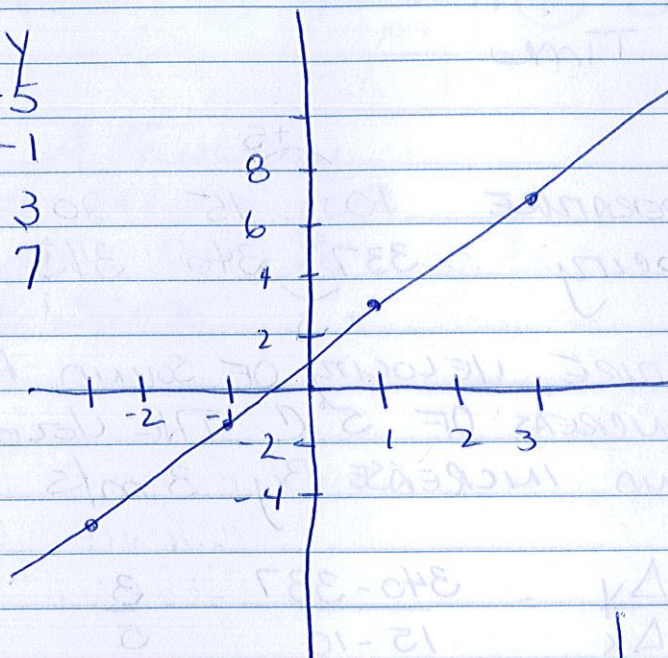
$$337 - 3 = 334 - 3 = 331$$

$$\therefore y = \frac{3}{5}x + 331$$



3)

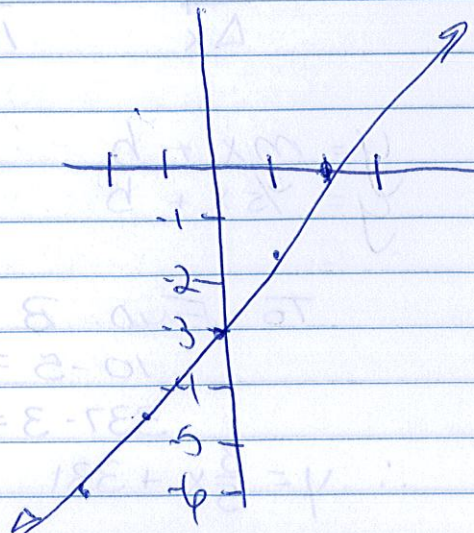
x	y
-3	-5
-1	-1
1	3
3	7



Linear
straight line
passes vertical
line test

5. $y = 1.5x - 3$

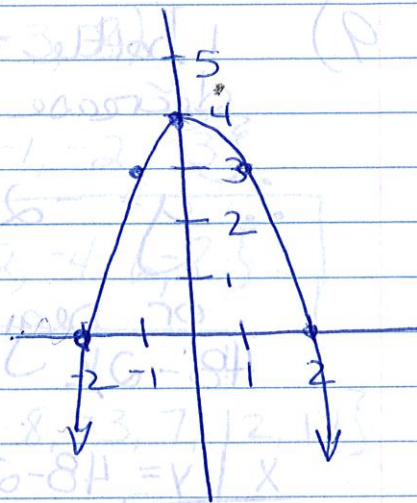
x	$1.5x - 3$	y
-2	$1.5(-2) - 3$	-6
-1	$1.5(-1) - 3$	-4.5
0	$1.5(0) - 3$	-3
1	$1.5(1) - 3$	-1.5
2	$1.5(2) - 3$	0



Chp 4 Empty boxes

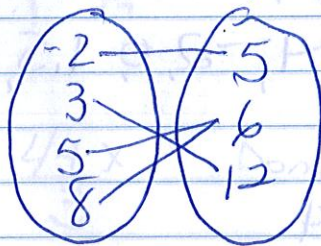
6. $y = -x^2 + 4$

x	$y = -x^2 + 4$	y
-2	$-(-2)^2 + 4$	0
-1	$-(-1)^2 + 4$	3
0	$-(0)^2 + 4$	4
1	$-(1)^2 + 4$	3
2	$-(2)^2 + 4$	0



7. $\{(-2, 5), (8, 6), (3, 12), (5, 6)\}$

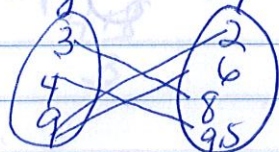
Domain x value: $\{-2, 3, 5, 8\}$
 Range y value: $\{5, 6, 12\}$



FUNCTION ONLY
 1 UNIQUE VALUE
 FOR EACH X

8. $\{(9, 6), (3, 8), (4, 9.5), (9, 2)\}$

Domain x value: $\{3, 4, 9\}$
 Range y value: $\{2, 6, 8, 9.5\}$



NOT A FUNCTION CAN
 NOT HAVE 2 X VALUES BE
 THE SAME

9) 1 bottle = 48 tsp. van. this is the beginning or decrease by 2 tsp. = rate of change = m

$$\therefore y = -2x + 48$$

or begin with 48. decrease by 2 tsp/bottle
 $48 - 2x$

x	y = 48 - 2x	
12	y = 48 - 2(12) = 48 - 24	24 tsp.

12 $f(x) = 5x^2 + 4$ $\{-4, -2, 0, 1.5, 4\}$

x	f(x) = 5x ² + 4	y
-4	5(-4) ² + 4	84
-2	5(-2) ² + 4	24
0	5(0) ² + 4	4
1.5	5(1.5) ² + 4	15.25
4	5(4) ² + 4	84

Range = $\{84, 24, 4, 15.25, 84\}$

Chp 4 Study Guide

2.) $\{(0, -2), (-1, -4), (-2, 6), (-3, 8)\}$

DOMAIN = x VALUE $\{0, -1, -2, -3\}$

RANGE = y VALUE $\{-2, -4, 6, 8\}$

4.) $y = \frac{3(x-2)}{5}$ DOMAIN: $\{-8, -3, 7, 12, 17\}$

RANGE = $\{-6, -3, 3, 6, 9\}$

x	$y = \frac{3(x-2)}{5}$	y
-8	$\frac{3(-8-2)}{5}$	-6
-3	$\frac{3(-3-2)}{5}$	-3
7	$\frac{3(7-2)}{5}$	3
12	$\frac{3(12-2)}{5}$	6
17	$\frac{3(17-2)}{5}$	9

6.) $y = \frac{4+x}{3}$ DOMAIN $\{-7, -1, 2, 5, 8\}$

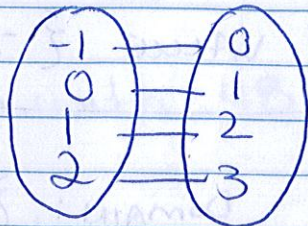
x	$\frac{4+x}{3}$	y
-7	$\frac{4-7}{3}$	-1
-1	$\frac{4-1}{3}$	1
2	$\frac{4+2}{3}$	2
5	$\frac{4+5}{3}$	3
8	$\frac{4+8}{3}$	4

RANGE = $\{-1, 1, 2, 3, 4\}$

$$8. \{(1,0), (0,1), (1,2), (2,3)\}$$

	X	Y
+	-1	0
+	0	1
+	1	2
+	2	3

Function



$$10. \{(1,7), (2,5), (3,6), (2,4)\}$$

not a function because
X value 2 twice

$$12. H(x) = 2x(x-1) \text{ find } H(4)$$

$$H(4) = 2(4)(4-1)$$

$$2(4)(3)$$

$$24$$

$$14. f(x) = x+11 \text{ find } f(x+1)$$

$$f(x+1) = (x+1)+11$$

$$= x+12$$