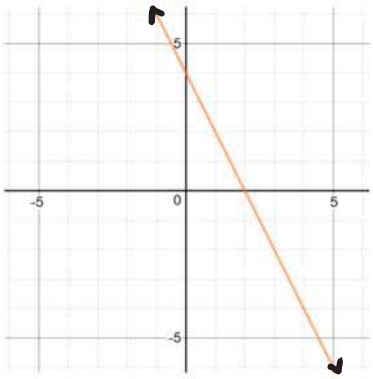
Chapter 5 Final Review

1. State the domain and range and wether each relation is a function.

a)

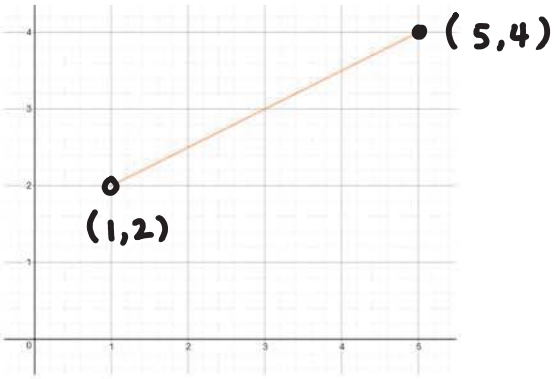


Domain: $x \in \mathbb{R}$

Range: $y \in \mathbb{R}$

Function: Yes No

b)

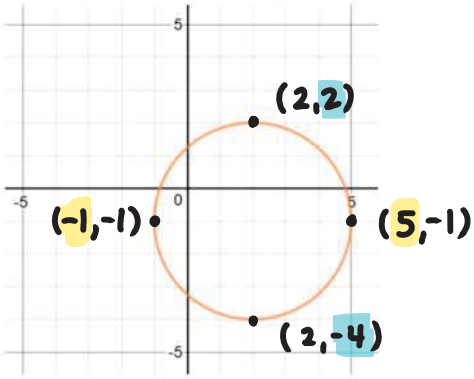


Domain: $1 < x \leq 5$

Range: $2 < y \leq 4$

Function: Yes No

c)

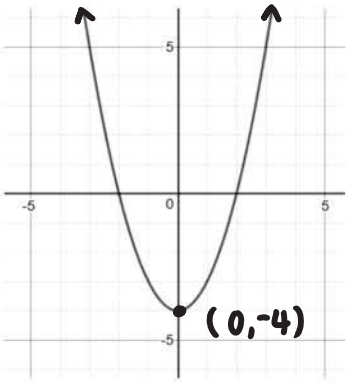


Domain: $-1 \leq x \leq 5$

Range: $-4 \leq y \leq 2$

Function: Yes No

d)



Domain: $x \in \mathbb{R}$

Range: $y \geq -4$

Function: Yes No

e) { (0 , 5) , (-3 , 4) , (7 , 1) , (2 , 8) , (7 , 3) }

Domain: $\{-3, 0, 2, 7\}$

Range: $\{1, 3, 4, 5, 8\}$

Function: Yes No

(x repeats)

f) { (-4 , 6) , (2 , 5) , (0 , -9) , (-11 , 6) }

Domain: $\{-11, -4, 0, 2\}$

Range: $\{-9, 5, 6\}$

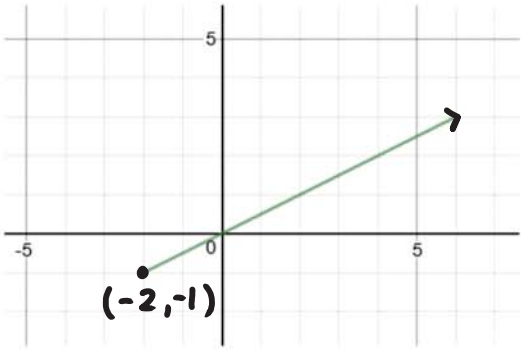
Function: Yes No

ok if "y" repeats

Mrs. Donnelly

F & PC 10

g)

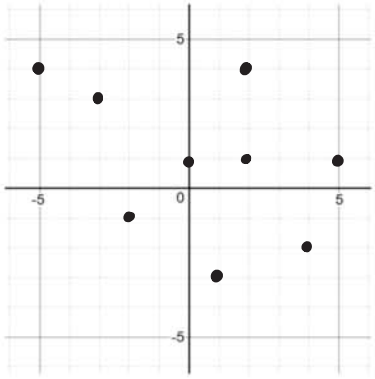


Domain: $x \geq -2$

Range: $y \geq -1$

Function: (Yes) No

h)

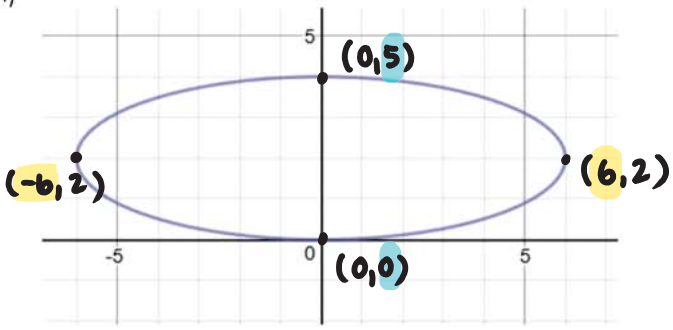


Domain: $\{-5, -3, -2, 0, 1, 2, 4, 5\}$

Range: $\{-3, -2, -1, 1, 3, 4\}$

Function: Yes (No)

i)

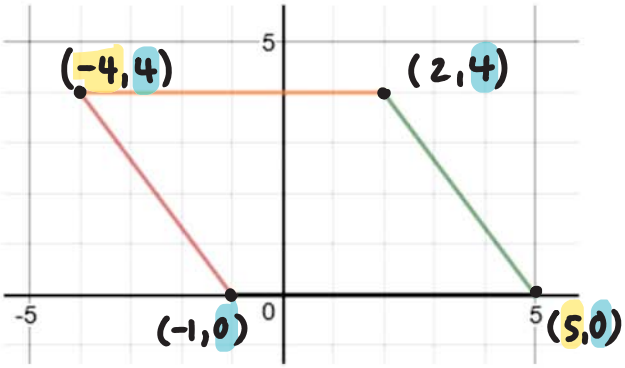


Domain: $-6 \leq x \leq 6$

Range: $0 \leq y \leq 5$

Function: Yes (No)

j)



Domain: $-4 \leq x \leq 5$

Range: $0 \leq y \leq 4$

Function: Yes (No)

2. Find the rate of change for each linear relation below.

a)

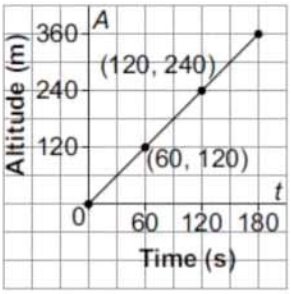
Time (s)	Distance (m)
0	18
2	24
4	30
6	36
8	42

+2 +2 +2 +2

+6 +6 +6 +6

rate of change $= \frac{6\text{m}}{2\text{s}} = 3\text{ m/s}$

b)



rate of change

$= \frac{\text{rise}}{\text{run}}$

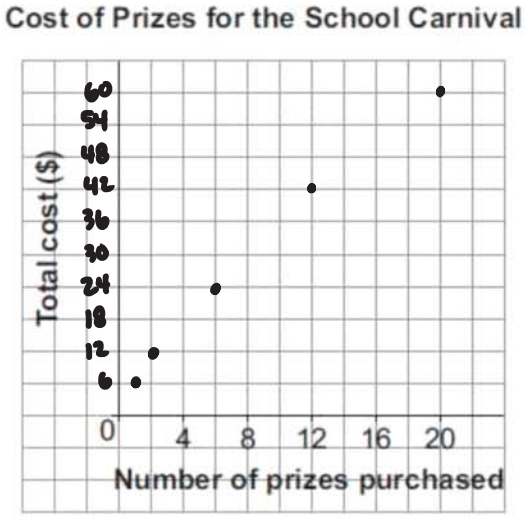
$= \frac{120\text{ m}}{60\text{ s}}$

$= 2\text{ m/s}$

3. This table shows the cost of prizes for the school carnival.

a) Graph the data. Choose an adequate scale for the vertical axis.

Number of prizes	Total Cost ($)
1	6
2	12
6	24
12	42
20	60



b) Does it make sense to join the points? Justify your answer.

No. cannot have half/portion of a prize.

c) Is the relation a function? Justify your answer.

Yes ("x" does not repeat)

d) State the domain and range.

D: { 1,2,6,12,20 }

R: { 6,12,24,42,60 }

4. Which table of values represents a linear relation? Explain how you know.

a)

Time (s)	Distance (m)
0	0
1	1
2	2
3	4
4	8

+1 +1 +1 +1 constant

+1 +1 +2 +4 not constant

Not linear

b)

Time (s)	Distance (m)
0	0
1	5
2	10
3	15
4	20

+1 +1 +1 +1 constant

+5 +5 +5 +5 constant

linear

5. Given the function $f(x) = -4x + 3$. Find: $f(-5)$

$f(-5) = -4(-5) + 3$

$= 20 + 3$

$f(-5) = 23$

6. Given the function $g(n) = n^2 - 3n + 8$. Find: $g(-2)$

$g(-2) = (-2)^2 - 3(-2) + 8$

$= 4 + 6 + 8$ $\qquad g(-2) = 18$

7. Given the function $f(n) = 3 - 8n$. Find the value of n when $f(n) = -85$

$-85 = 3 - 8n$

$-3 \quad -3$

$\frac{-88}{-8} = \frac{-8n}{-8}$ $\qquad 11 = n$

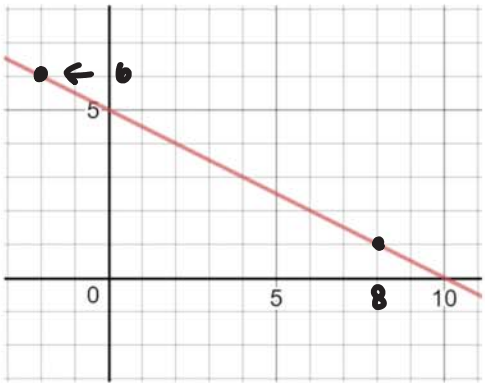
8. Given the function $f(x) = 5x - 6$. Find the value of x when $f(x) = -41$

$-41 = 5x - 6$

$+6 \qquad +6$

$\frac{-35}{5} = \frac{5x}{5}$ $\qquad -7 = x$

9. Given the graph of the function:



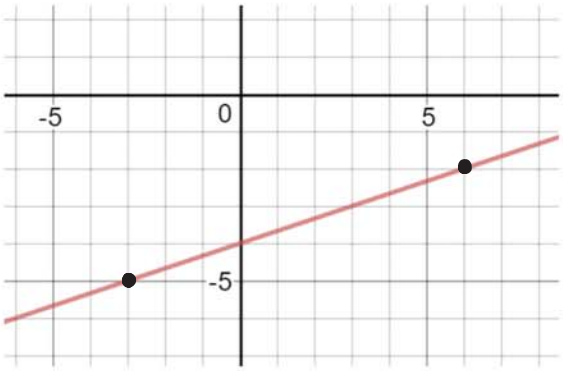
a) Find the **domain value** (x-value) when the range value (y-value) is 6.

$x = -2$

b) Find the **range value** (y-value) when the domain value (x-value) is 8.

$y = 1$

10. Given the graph of the function:



a) Find the **domain value** when the range value is -5.

$x = -3$

b) Find the **range value** when the domain value is 6.

$y = -2$

Additional Practice: p.326 #3 – 6, 8, 9, 11 ,13, 16 – 18