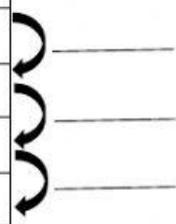# Chapter 4.1 – 4.3 Quiz: Linear Relations

1. The pattern in the table below continues.
    a) Write an equation that relates v to t.

Term Number, t	Equation: ____ = ____ ____ ☐ ____	Term Value, v
1	____ = ____ ☐ ____	7
2	____ = ____ ☐ ____	11
3	____ = ____ ☐ ____	15
4	____ = ____ ☐ ____	19
20	____ = ____ ☐ ____	
	____ = ____ ☐ ____	51

b) Find the term value of the 20ᵗʰ term.
   *show your answer in the chart

c) Which term would have a value of 51?
   *show your answer in the chart

2. A taxi company charges a fixed rate of \$3 plus \$1.50 per kilometer.
   **a)** Create table of values to show the total you would pay for the first 4 kilometers.

number of km, x	Equation: ____ = ____ ____ ☐ ____	total paid, y
1	____ = ____ ____ ☐ ____	
2	____ = ____ ____ ☐ ____	
3	____ = ____ ____ ☐ ____	
4	____ = ____ ____ ☐ ____	
15	____ = ____ ____ ☐ ____	
	____ = ____ ____ ☐ ____	40.50

b) How much would it cost to drive 15 km?
   *show your answer in the chart

c) How far did you go if the total was \$40.50?
   *show your answer in the chart

3. Graph the following linear relation using all the information in the table.
   a) Drag and drop the arrows and the variables x and y to label the x and y axes.
   b) Drag and drop the red dots to the correct point on the graph.

x	y
1	3
4	5
7	7
10	9
13	11

x   y
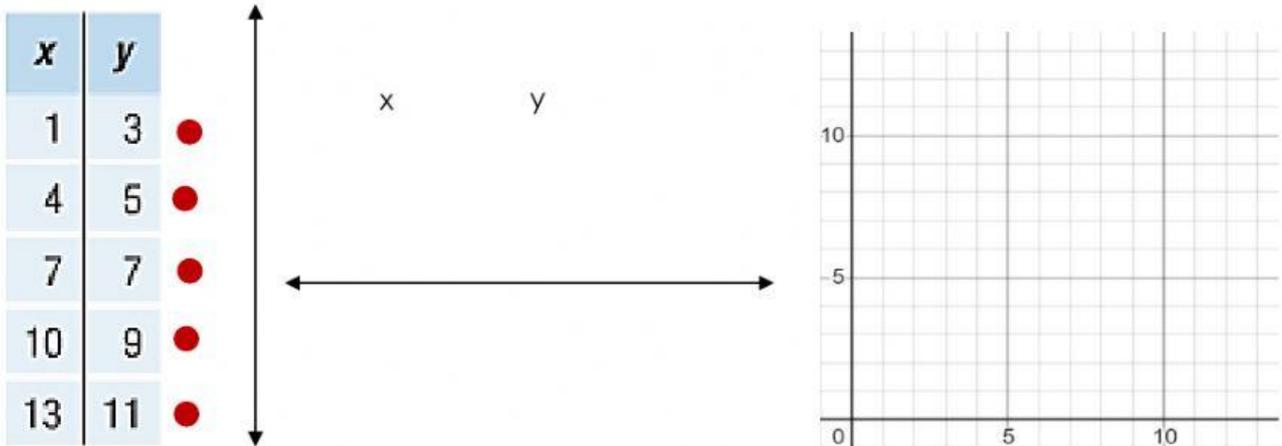
4. Classify the following lines as Vertical, Horizontal or Oblique.
   a) x = 2

   b) y = 4

   c) y = 2x + 3

   d) x + 5 =

   d) -3 = y

   f) 14x + 7y = 21

   g) -3x + y = 9

   h) y + 2 = 3

5. Which equation describes each graph below?
   a)   **b)**   **c)**   **d)**
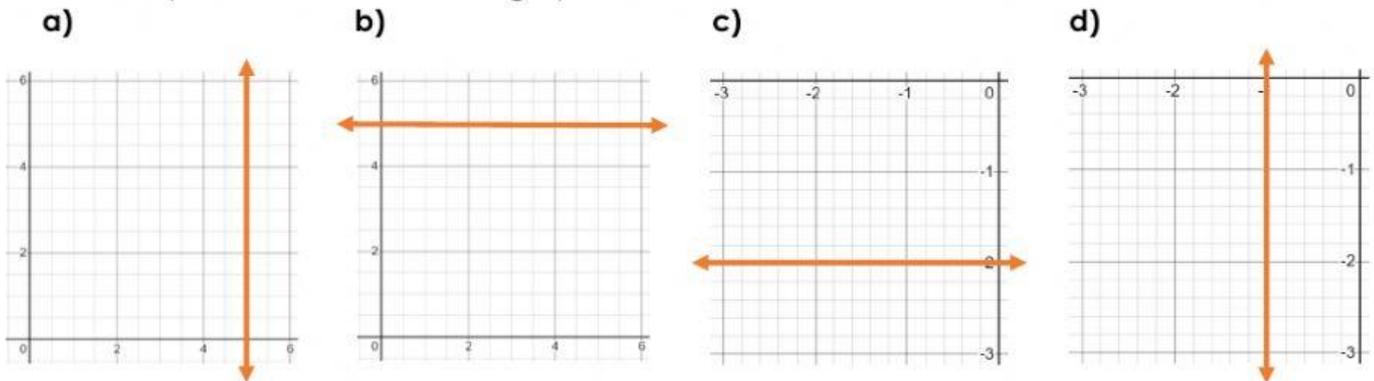
6. Indicate which of the following are linear and which are non-linear. Explain how you know.

a)

x	y
-2	2
0	8
2	16
4	32

b)

x	y
1	-3
2	-6
3	-9
4	-12

c)

d)
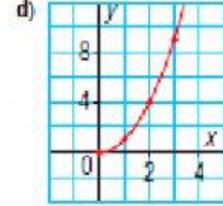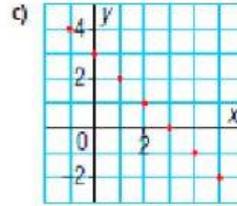
e) $x - 3y = 2$

f) $x^2 - 3x + 2 = y$

g) $(2, 6), (1, 8), (0, 10), (-1, 12)$

h) $(5, 10), (10, 5), (5, 0), (10, -5)$