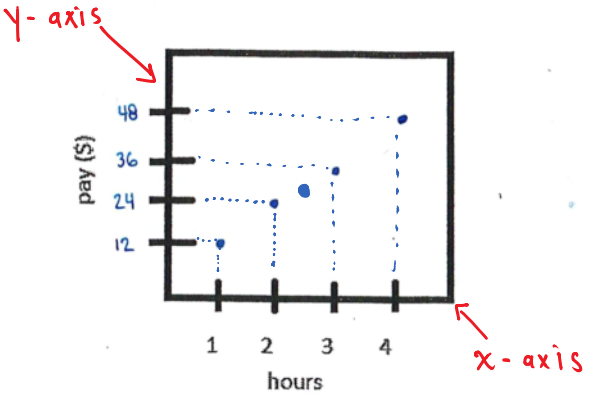
9.1 Analyzing Graphs of Linear Relations

Linear Relation – Two quantities that are related, that increase or decrease at a constant rate. When graphed, they form a straight line.

Example:



x y

X (hours)	Y (pay)
1	12
2	24
3	36
4	48

(x, y)
(1, 12)
(2, 24)

x
y

X (hours)	1	2	3	4
Y (pay)	12	24	36	48

The first column or top row is always the x - values

Using the above graph, describe the patterns you see in the data.

- Time increases by 1
- Pay increases by 12
* Both increase
- form a straight line
- Pay is 12 times the time

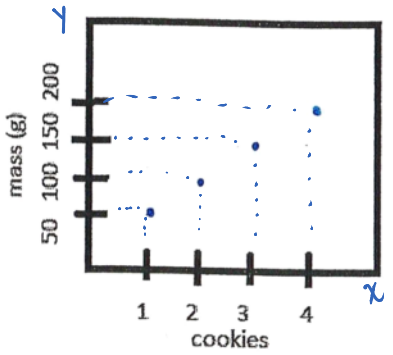
Can there be points in between the points already on the graph?

Yes (for this graph)

* possible to work part of an hour

Continuous data

Ex. Make a table of values from the following graph.



x y

C (cookies)	M (mass)
1	50
2	100
3	150
4	200

If the pattern continues, how much mass would 9 cookies have?

9 x 50 = 450 g

Describe the patterns in the graph.

- cookies increase by 1
- mass increase by 50 g
- mass is 50 times cookies
- Both increasing
- form a straight line

Is it reasonable to have points in between the points already on the graph?

No! can't buy 1.5, 2.7 cookies

"counting numbers"

Discrete data

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② 9.1 WS