

Name: _____

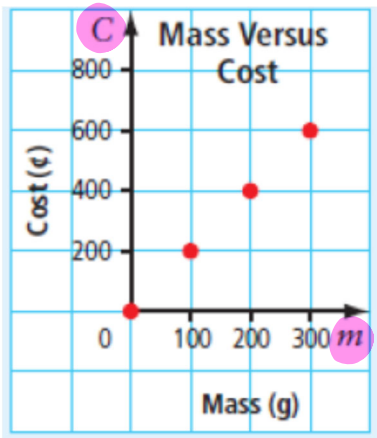
Date: _____

Learning Goal 5.2	I can express relations as expressions, in a table of values and on a graph.
--------------------------	--

A linear relation is

- a consistent relationship of points.
- a straight line

Example



independent variable →

dependant variable.

Mass, m (g)	0	100	200	300
Cost, C (¢)	0	200	400	600

$+100$ $+100$ $+100$
 $+200$ $+200$ $+200$

a. What is the difference in value for consecutive m – values?

+ 100

b. What is the difference in value for consecutive C – values?

+ 200

c. How can you describe, in words, the relationship between the values for m and C ?

Everytime m increases by 100g, the cost increases by 200¢

- m is half of C equation

d. How are m and C related? Write an expression for C in terms of m .

$$C = 2m = \frac{200}{100} m$$

We have three methods of representing a linear relationship.

1. a graph

2. a table

3. equation.

Example Consider each of the table of values.

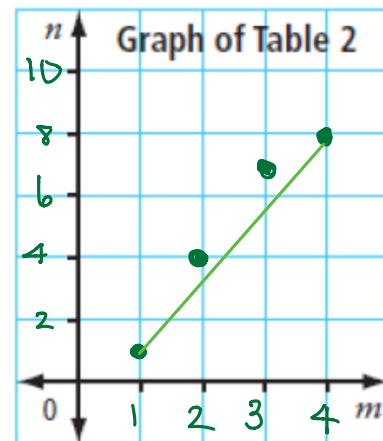
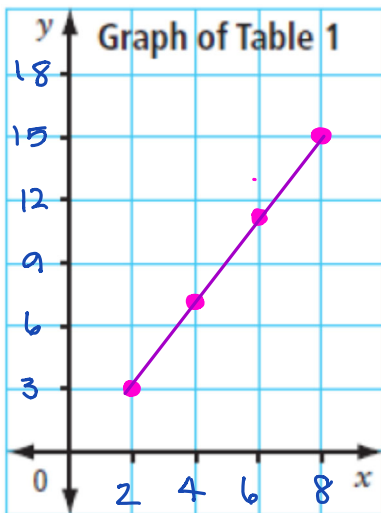
x	2	4	6	8
y	3	7	11	15

Handwritten annotations: +2 above 2-4, 4-6, 6-8; +4 below 3-7, 7-11, 11-15

m	1	2	3	4
n	1	4	7	8

Handwritten annotations: +1 above 1-2, 2-3, 3-4; +3 below 1-4, 4-7, 7-8

- What is the pattern in the values for the first variable in each table?
 - the x-value increases by 2 at each step
 - the m-value increases by 1 at each step
- What is the difference in consecutive values for the second variable in each table? Is the difference within each table the same?
 - the y-value increases by 4 at each step
 - the n-value does not have a consistent step size.
- Graph each set of ordered pairs. Which relations are linear?



Conclusion From a table, a linear relationship will be represented by a consistent step in both variables
 In a graph, a linear relationship is represented by a line that connects all the data points.