

Lesson 5: Identifying Proportional and Non-Proportional Relationships in Graphs

Relationships in Graphs

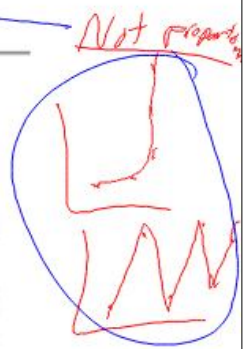
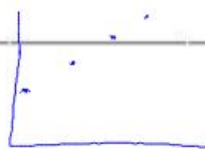
Classwork

Opening Exercise

Isaiah sold candy bars to help raise money for his scouting troop. The table shows the amount of candy he sold compared to the money he received.

x Candy Bars Sold	y Money Received (\$)
2	3
4	5
8	9
12	12

Is the amount of candy bars sold proportional to the money Isaiah received? How do you know?



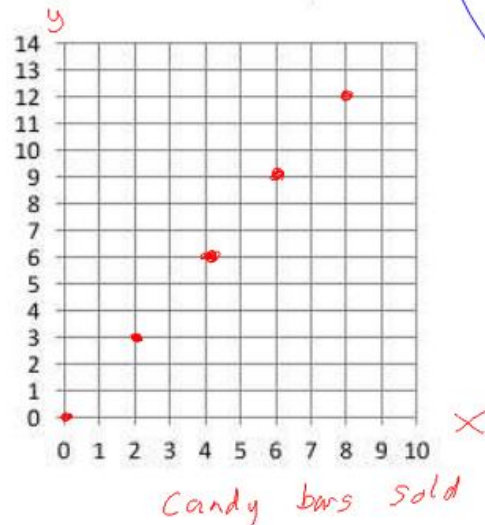
Example 1: From a Table to Graph

Using the ratio provided, create a table that shows money received is proportional to the number of candy bars sold. Plot the points in your table on the grid.

x Candy Bars Sold	y Money Received (\$)
2	3
4	6
6	9
8	12

$\frac{3}{2} = 1.5$
 $\frac{6}{4} = 1.5$
 $\frac{9}{6} = 1.5$
 $\frac{12}{8} = 1.5$

money
Received
(\$)



Note: ~~points~~ points appear on a line
 Line goes through the origin

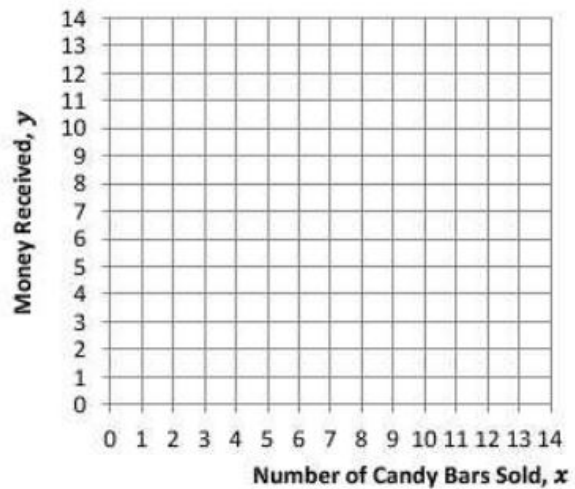
Important Note:

Characteristics of graphs of proportional relationships:

Example 2

Graph the points from the Opening Exercise.

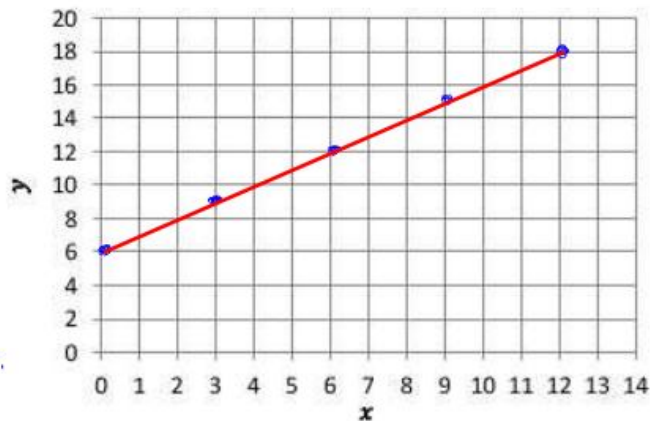
x Candy Bars Sold	y Money Received (\$)
2	3
4	6
8	12
12	14



Example 3

Graph the points provided in the table below and describe the similarities and differences when comparing your graph to the graph in Example 1.

x	y
0	6
3	9
6	12
9	15
12	18



Similarities with Example 1:

Both are straight lines.

Differences from Example 1:

This line does not go through the origin.

This graph is not proportional.