Name _____ Date_____

Relationships in Graphs

1. Which graphs in the gallery walk represented proportional relationships and which did not? List the group number.

   Proportional Relationship Non-Proportional Relationship

2. What are the characteristics of the graphs that represent proportional relationships?

3. For the graphs representing proportional relationships, what does $(0,0)$ mean in the context of the given situation?

Sally's aunt put money in a savings account for her on the day Sally was born. The savings account pays interest for keeping her money in the bank. The ratios below represent the number of years to the amount of money in the savings account.

- After one year, the interest accumulated, and the total in Sally's account was $\$312$.
- After three years, the total was $\$340$. After six years, the total was $\$380$.
- After nine years, the total was $\$430$. After 12 years, the total amount in Sally's savings account was $\$480$.

Using the same four-fold method from class, create a table and a graph, and explain whether the amount of money accumulated and the time elapsed are proportional to each other. Use your table and graph to support your reasoning.

1. **Which graphs in the art gallery walk represented proportional relationships and which did not? List the group number.**

Proportional Relationship	Non-Proportional Relationship	
Group 2	*Group 1*	*Group 5*
Group 7	*Group 3*	*Group 6*
	Group 4	*Group 8*

2. **What are the characteristics of the graphs that represent proportional relationships?**

   Graphs of groups 2 and 7 appear on a line and go through the origin.

3. **For the graphs representing proportional relationships, what does $(0, 0)$ mean in the context of the situation?**

   For zero books sold, the library received zero dollars in donations.

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Using the same four-fold method from class, create a table and a graph, and explain whether the amount of money accumulated and time elapsed are proportional to each other. Use your table and graph to support your reasoning.

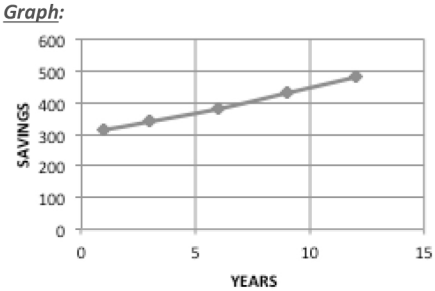
Problem:

Sally's aunt put money in a savings account for her on the day Sally was born. The savings account pays interest for keeping the money in the bank. The ratios below represent the number of years to the amount of money in the savings account. Create a table and a graph, and explain whether the quantities are proportional to each other.

Table:

Years	*Savings ($)*
1	312
3	340
6	380
9	430
12	480

Graph:



Explanation:

The graph is not proportional because although the data appears to be a line, it is not a line that goes through the origin. The amount of interest collected is not the same every year.