

Activity 5 Real-World Application Pledge Plans

Objectives:

- *Apply the concept of linear equations solve real-world problem*
- *Use a table to organize information*
- *Make a graph to display data using heading, labels, and scales*
- *Use a graphing calculator to see if the graph is correct*
- *Recognize the relationship among the tables, the graph, the equation, and the slope of the line*
- *Identify the y-intercept from a graph or a table*

Read the problem carefully and answer all the questions.

Several students from “Help Your School Club” want to raise money for your school. They are participating in a 10-Kilometer walk-a-thon and need to decide on a plan for sponsors to pledge money for the walk-a-thon. Chris thinks that \$1.50 per kilometer would be an appropriate pledge. Natalie suggests \$2.50 per kilometer because it would bring in more money. Grace says that if they ask for too much money, people won’t agree to be sponsors; she suggests that they ask for a donation of \$4.00 and then \$0.75 per kilometer.

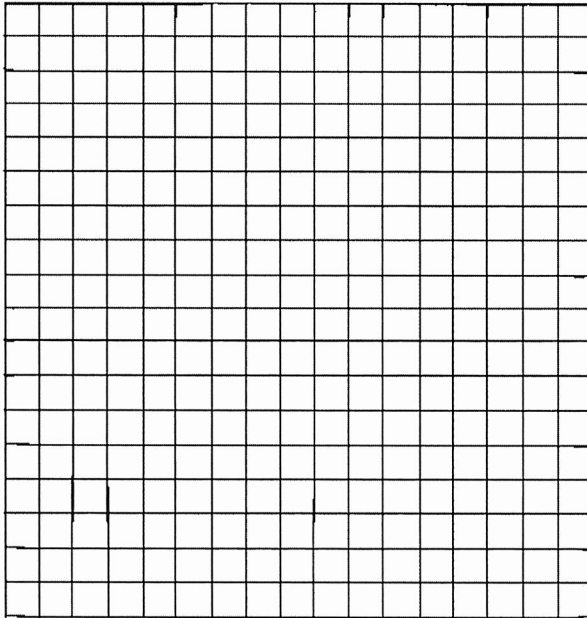
1. Fill in the table below showing the amount of money a sponsor would owe under each of the pledge plans. The dollar amounts for 0 Km and 1 Km are filled in as examples.

Distance 1-10 Km	Money Owed (Dollars)		
	Chris	Natalie	Grace
0	0.00	0.00	4.00
1	1.50	2.50	4.75
2			
3			
4			
5			
6			
7			
8			
9			
10			

Use the grid below to answer question #2.

Exploring Linear Equations

2. On the same coordinate grid, make a graph for each of the three pledge plans. Use a line to connect the points. Remember to give your graph a title, label your axes, and show the scale on each axis.



3. Use graphing calculator to check your graph.

Suggested Window
Xmin = 0
Xmax = 10
Xscl = 1
Ymin = 0
Ymax = 25

4. For each of the three plans, describe in your own words, the relationship between the money earned and the distance walked.

5. Write an equation that can be used to compute the money owed under each pledge plan. Use M to represent the money owed and d to represent the distance the student walks.

Exploring Linear Equations

6. State the slope and the y-intercept for each of the above equations.

7. Describe how increasing the amount of the pledge per kilometer affects the table, the graph, and the equations.

8. Does the amount of the pledge per kilometer in question #7 relate to the slope of the line? How does it relate? Explain.

9. Describe what is different about Grace's plan. What happens in the table, the graph, and the equation when Grace's plan is introduced?

Challenge:

10. Write your own pledge plan and sketch its graph. Make your own axes and show the labels and scale. Use the graphing calculator to check your graph.