

**Part One**

1. Using the example of the pool, describe the relationship of the rising water to time.

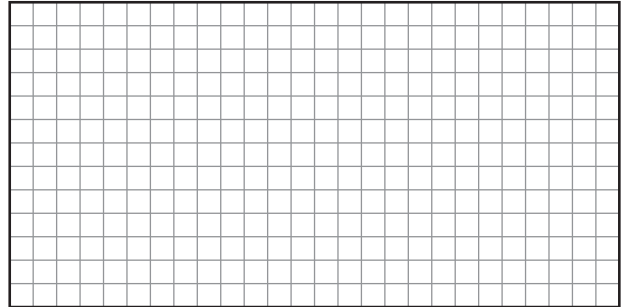
Relationship (in words): \_\_\_\_\_

\_\_\_\_\_

Relationship (using symbols): \_\_\_\_\_

Relationship (table of values):


Relationship (by graphing):



2. What were the situations and relationships that you thought of?

**Situation 1**

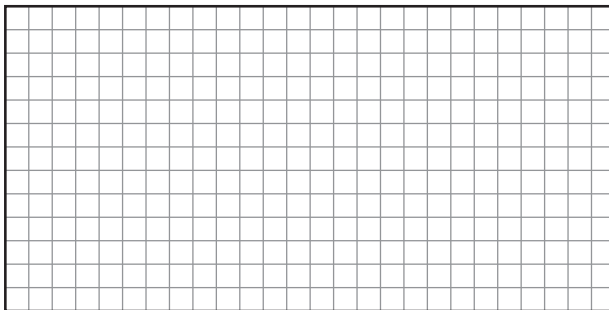
Relationship (in words): \_\_\_\_\_

\_\_\_\_\_

Relationship (using symbols): \_\_\_\_\_

Relationship (table of values):


Relationship (by graphing):



**Situation 2**

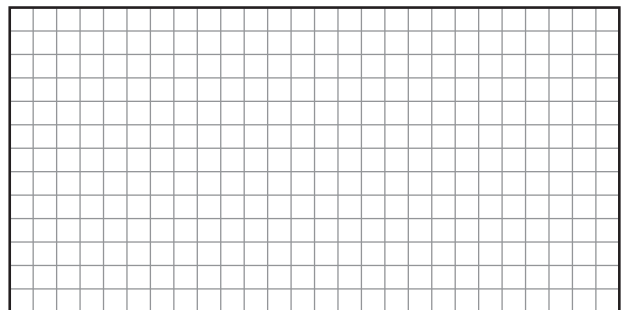
Relationship (in words): \_\_\_\_\_

\_\_\_\_\_

Relationship (using symbols): \_\_\_\_\_

Relationship (table of values):


Relationship (by graphing):



3. Fill in the following table using all the equations that came up during the discussion:

Linear Equations			
Non-Linear Equations			

4. What is a linear equation according to you? \_\_\_\_\_

\_\_\_\_\_

**PART TWO**

- Which of the situations/relationships that you thought of formed linear equations? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
- What is the significance of the y-intercept (the point at which the line crosses the y-axis) in each situation?  
 \_\_\_\_\_  
 \_\_\_\_\_
- What is the significance of the x-intercept (the point at which the line crosses the x-axis) in each situation?  
 \_\_\_\_\_  
 \_\_\_\_\_
- What is the slope in each situation? (How much does the dependent variable change for each unit change in the independent variable?) \_\_\_\_\_  
 \_\_\_\_\_
- Fill in the following table with the linear equations offered by you and the class :
 

Equation				
Slope				
y-intercept				
- Explain how you could find the y-intercept by:
  - looking at a graph \_\_\_\_\_  
 \_\_\_\_\_
  - looking at an equation \_\_\_\_\_  
 \_\_\_\_\_
- Explain how you could find the slope by:
  - looking at a graph \_\_\_\_\_  
 \_\_\_\_\_
  - looking at an equation \_\_\_\_\_  
 \_\_\_\_\_
- On a separate sheet of paper, create two examples of linear relationships: one in which the slope is positive and another in which it is negative. Draw rough figures of those situations.

**EXTRA CHALLENGE**

Have the classmate to your right give you a number,  $m$ , and the classmate to your left give you another number,  $b$ . Using  $m$  as the slope and  $b$  as the y-intercept, sketch a graph and think of a situation which it could represent.