

# Chapter 1.1: Linear Exercises

## Calculus I

College of the Atlantic. Fall 2014

Time	People
8	92
12	85
16	78
20	71
24	64

The above table of data gives the number of people in a poorly taught calculus class at a large university. The time is measured in days since the start of the class.

1. Is the function linear? How can you tell?
2. Make a sketch of the function.
3. Determine an equation describing this data.
4. State the meaning of every number and symbol in your equation. Give units.
5. Explain the meaning of the x-intercept of the function. You do not need to calculate its value.
6. Write a concise sentence that describes this function.

A quart of fresh Maine blueberries is worth \$4.00. However, its value decreases by fifty cents each day after it's been picked.

1. Complete the table below.
2. Write a formula for the function. State the meaning of every symbol and number in the equation.
3. What is the meaning of the x-intercept of the function?
4. Sketch the function.

Day	Value
0	
1	
2	
3	
4	

Imagine you are writing a Field Guide of Mathematical Functions. What are the “field markings” – i.e., useful identifying characteristics – for linear functions?

1. What does the graph of a linear function look like?
2. How can you tell if a function is linear by looking at a table of values?
3. What is the equation for a linear function?
4. If given a verbal description of a function, how can you tell if it's linear?