## Class 02: Accumulated Change: Graphs Calculus II

College of the Atlantic. January 13, 2025



Figure 1: Image by Cakespy (Jessie Unicorn Moore) from http://www.unicornlove.com/blog/2013/4/30/a-silk-soymilk-daydream.html

Soy milk leaks from a storage tank in COA's dining hall. The rate of leakage is shown on the graph.

- 1. Come up with an upper estimate for the total amount of soy milk that has been released into the environment. Use  $\Delta t = 2$ .
- 2. Come up with a lower estimate for the total amount of soy milk that has been released into the environment. Use  $\Delta t = 2$ .
- 3. Represent these upper and lower estimates on the graph.
- 4. Show how you would represent upper and lower estimates using  $\Delta t = 1$ . Do not calculate numerical values for the estimates.
- 5. Suppose you needed to know how much soy milk was released into the environment to within 4 gallons. What  $\Delta t$  would you choose?



