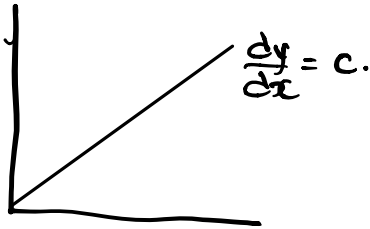## PROBLEM #1

Imagine you place one end of a waterhose in a pool and turn on the tap. Water pours at a constant rate causing a pool to fill at a constant rate.
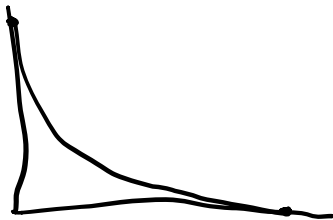
Plot the pools volume of water over time.

$$\frac{dy}{dx} = c.$$

PROBLEM #2.

Water cools down at a rate proportional to its temp. The hotter water is the quicker it will cool down.
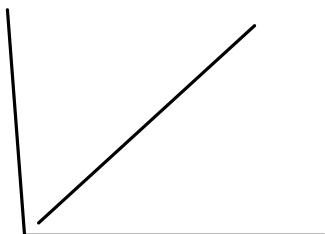
Graph the temp. of really initially hot water over time.
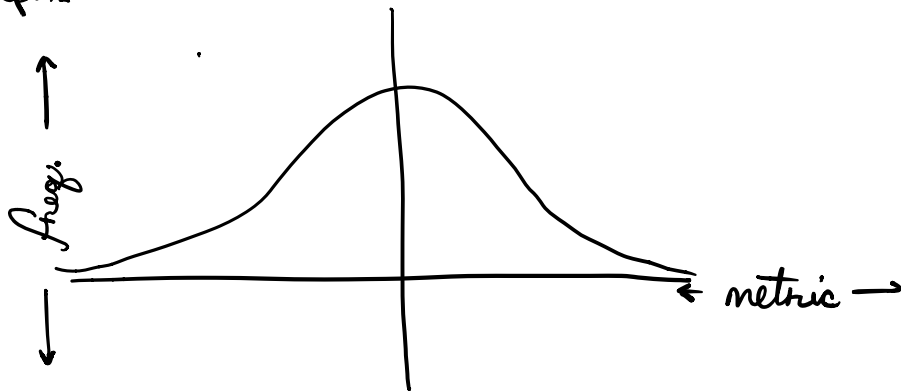
PROBLEM #3.

Gravity accelerates mass in freefall.
Graph the acceleration of a mass over time in freefall.

PROBLEM #4.

Given frequencies with a central tendency and rarity in deviation from the centrality of the distrib graph.

PROBLEM #5.

Given a perpetual oscillation with a periodicity of $\frac{1}{2}s$ graph the oscillation beginning at either terminus of the oscillation.