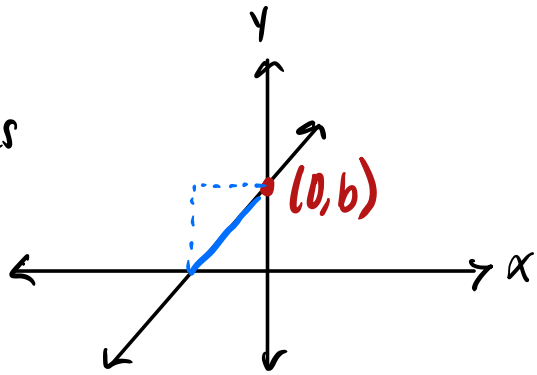
Different Types of Functions

Polynomials

① Linear functions

$y = mx^1 + b$



constant slope

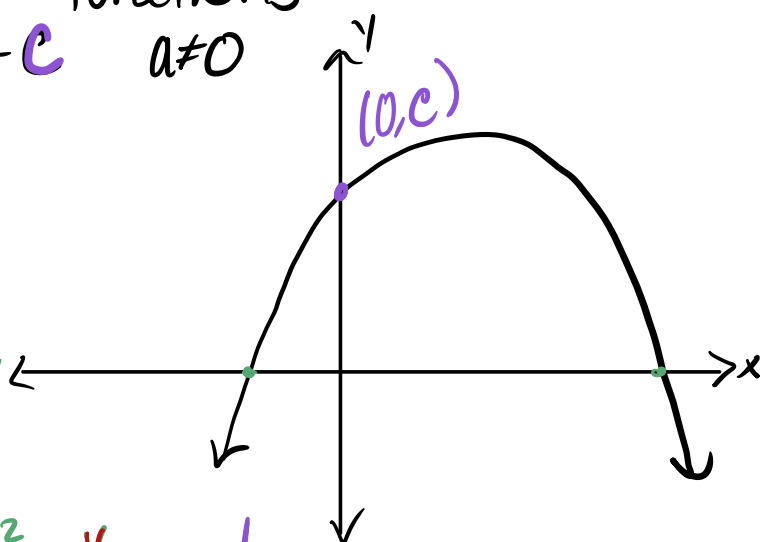
ex: spend $20 to buy lemonade supplies, and sell for $2.

② Quadratic functions

$y = ax^2 + bx + c \quad a \neq 0$

$y = x^2$

squaring function



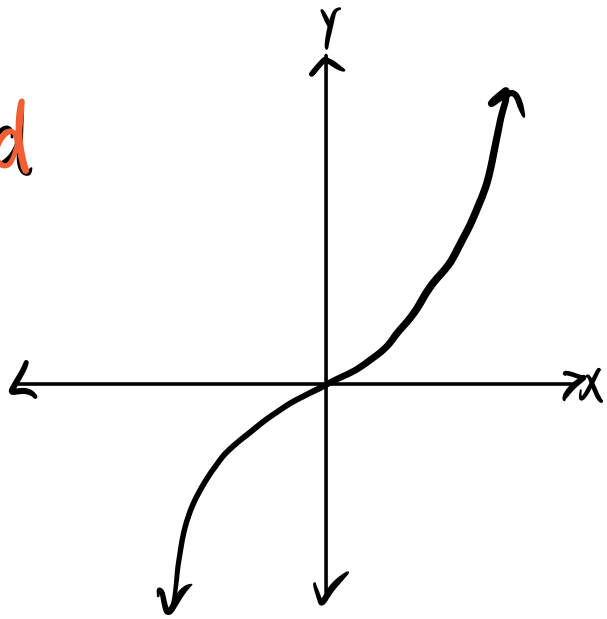
ex $y = -16x^2 + V_0 x + h_0$

ex "optimize" area

③ cubic function

$y = ax^3 + bx^2 + cx + d$

$y = x^3$



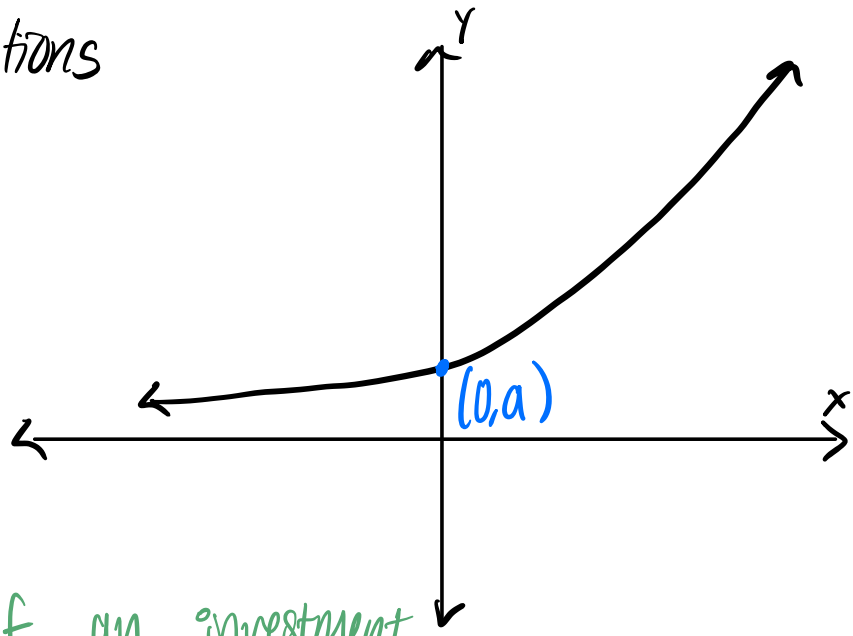
cubing function

ex: "optimizing" volume

Exponential Functions

$y = a \cdot 2^x$

$y = e^x$



ex growth of an investment over time

decay of an element / half life

growth or decline of populations