

# Lecture 2

Tuesday, September 27, 2022 7:57 AM

Review function:

- number is an underlying concept behind quantity.
  - function is an underlying concept behind relation.
- } building blocks of mathematics

Quantity  $y$  depending on quantity  $x \rightsquigarrow y = y(x)$

Ex. Temperature is a function of both location and time

$$T = T(x_1, x_2, x_3, t)$$

- Battery level in a phone is a function of time only if the phone is put on plane mode. Otherwise, it depends also on other parameters.
- Amount of hay needed is a function of the number of cows you have.

Graph is a visualization of a function.

But functions can be expressed in other ways:

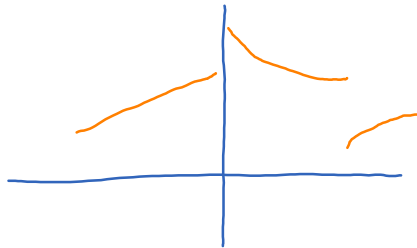
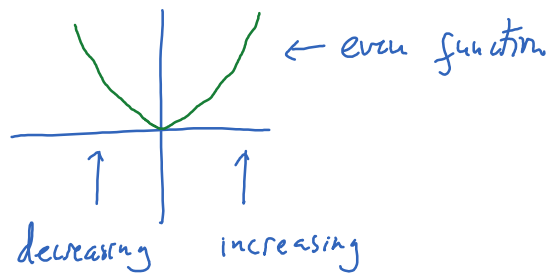
$$f(x) = \frac{1}{2} \rightarrow \text{algebraic}$$

$x$	$f(x)$
1	2
2	1
3	3

$\rightsquigarrow$  by table (numerical)

\* Review some basic functions:

- linear function
- quadratic
- power
- polynomial
- absolute value
- rational functions
- piecewise function



Some practice problems on the worksheet.