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## Introduction to Functions

# High School Algebra

Instructor: Ben Huang

# Why Functions?

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Relations are everywhere.



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Relations are everywhere.



Mathematics is to study relations quantitatively.

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## Time - Position Relation

Input: time      Output: position

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Neural Network - a fancy way to discover relations

Input: pixels

Output: the recognized number

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Event - Probability Relation - the endeavor to understand randomness

Input: event      Output: probability

# Function Representations

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input from the domain → rule → **unambiguous** output in  
the range

# Exercises

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Time to get your hands dirty!

[Exercises on WeBWork](#)

[Exercises Offline Version](#)