

## The Mathematics Framework: A Simplified Overview

**Balance of three interrelated parts: basic skills, problem solving, logical reasoning** (vi, 2, 7, 11)

### **Basic skills sequence** (9)

- Addition, subtraction, multiplication, division
- Fraction = decimal = percent
- Fractions, decimals, and percents
- Measuring
- Perimeter and area
- Graphs
- Mean and median
- Scientific notation
- Basic geometry, including Pythagorean
- Finding the equation of a line, given two points
- Solving linear equations and systems of linear equations

### **Problem solving** (10, 19)

- Information --> pattern, connection, equation
- Breaking up into steps
- Solution:
  - Graph, table, diagram, sketch
  - Finding a simpler related problem
  - Estimating, trial and error
  - Does the answer make sense?

### **Logical reasoning and conceptual understanding** (4, 7, 10, 17)

- Thinking skills:
  - Connecting math with music, art, architecture, science, philosophy, etc.
  - Analysis, criticism, argument, logical reasoning, abstraction, precision
  - Aesthetics and beauty
  - Lifelong students

