MATH 150

Today

1. A problem
2. Greeting, roster, syllabus
3. Chapter 0 (0.1-0.2)
4. Homefun

Goals:

1. Develop a common vocabulary:
   (a) Number systems
   (b) Sets
   (c) Equations
2. Understand the geometry of the Cartesian plane
3. Recall properties of the real numbers
4. Recall basic equation-solving techniques

A problem

A car travels at a velocity modeled by $v(t) = 0.66t^2$ m/s for t from 0 to 10 seconds. How far does the car travel in this time?

Why study Calculus?

1. Calculus is the study of change.
2. It is useful in a ton of other areas:
   (a) Physics, chemistry

(b) Computer graphics and animation
(c) Economics and finance
(d) Statistics
(e) Engineering
(f) etc.

3. It's amazingly cool and beautiful!

Chapter 0: Getting on the Same Page

1. Sets
   (a) Sets of numbers (expressions for rational numbers)
   (b) Interval notation
   (c) Operations on sets (union, intersection, complement)
2. Cartesian geometry
   (a) Coordinates
   (b) Distance formula
3. Equations
   (a) The Zero Product Property
   (b) The Quadratic Formula
   (c) Factorization
   (d) Systems
4. Rational expressions
5. Examples. p. 13: 33, 35, 38, 39, 57, 58, 53, 54, 66, 70
6. Examples: p. 23: 20, 23, 30, 33, 35, 39, 48, 51, 62, 63, 70, 73

Next Time

1. Watch Section 0.3 [28 min]