Learn You a Physics for Great Good!

>>> WORK IN PROGRESS <<<

Calculus / Introduction

[src: Calculus/Intro.lhs] Previous: Getting started Table of contents Next: Function expressions

```
module Calculus.Intro where
```

What is calculus?

Plain equations where no values change over time are all fine and well. The importance of being able to solve basic problems like “If Jenny has 22 apples, and Richard has 18 apples: how many apples do they have together?” cannot be understated, but they’re not especially fun!

“An unstoppable car has an constant velocity of 141.622272 km/h. How many kilometers has it driven after a day?”. To solve more interesting problems like this, we need calculus.

Calculus is the study of stuff that continuously change over time (or some other continuous variable). For example, a distance that changes over time is equivalent to a velocity. You can have rates of changes with respect to other units, like length, as well, but those are not as common.

There are two major branches of calculus, differential calculus and integral calculus. Differential calculus is all about those rates of changes and graph slopes. Differences, differentials, derivatives, and the like. Integral calculus, on the other hand, is all about accumulation and areas. Sums, integrals, and such.

In this chapter we'll expore the syntax of diffences, the problem with differentials, symbolic differentiation, and numeric and symbolic integration.

[src: Calculus/Intro.lhs] Previous: Getting started Table of contents Next: Function expressions

© Björn Werner, Erik Sjöström, Johan Johansson, Oskar Lundström (2018), GPL