Introduction to General Rules for Differentiation

We've now seen several specific rules for differentiation; for example, x^n is nx^{n-1}. We've even seen a few examples using this formula. We've also seen some general rules for extending these calculations. For instance, $(cu)' = c \cdot u'$ and $(u + v)' = u' + v'$.

Today we'll learn more general rules; how to differentiate a product of functions, a quotient of functions, and best of all a composition of functions. At the end we'll learn something about higher derivatives.