

General Derivative Rules

We've just seen some specific rules for taking the derivatives of the cosine and sine functions. Here are some general rules which we'll discuss in more detail later.

Product Rule

$$(uv)' = u'v + uv'$$

The way that you should remember this is by thinking about changing one function (u or v) at a time. This is a good general procedure when taking derivatives involving multiple functions.

Quotient Rule

$$\left(\frac{u}{v}\right)' = \frac{u'v - uv'}{v^2} \quad (v \neq 0).$$

You'll see proofs of these soon, and you should be able to prove facts like these for your homework and exams.