

Why is Calculus hard?

Calculus is *hard* for three reasons:

1. There are *lots of facts* to memorize: and everything new that you learn depends on practically everything you have learned in mathematics before.
2. There are new *technical skills* to master, requiring lots of practice. It doesn't just matter what you know how to do, it matters how quickly and accurately you can do it. This applies to technical skills learned previously as well!
3. Calculus is *abstract*: although everything we do is rooted in applications, the power of calculus as a tool in the sciences is that we can take one (or two, or three...) steps back from the applications and look for general patterns.

Memorizing facts takes a lot of time and (not very interesting) effort; the practicing of technical skills is very much the same. The ability to deal with abstraction comes only after mastering the facts and skills, and the working of many examples.