Littlewood's three principles[1]

(Quoted from H. L. Royden, *Real Analysis*, original in J. E. Littlewood, *Lectures on the Theory of Functions* (1944), p.26.)

The extent of knowledge required is nothing like so great as is sometimes supposed. There are three principles, roughly expressible in the following terms:

- Every (measurable) set is nearly a finite union of intervals;
- every [measurable] function is nearly continuous;
- every convergent sequence of [measurable] functions is nearly uniformly convergent.

Most of the results [of the theory] are fairly intuitive applications of these ideas, and the student armed with them should be equal to most occasions when real variable theory called for. If one of the principles would be the obvious means to settle the problem if it were "quite" true, it is natural to ask if the "nearly" is near enough, and for a problem that is actually solvable it generally is.

J. E. Littlewood

[1] John Edensor Littlewood (9 June 1885 - 6 September 1977), British mathematician; famous for his long collaboration with G. H. Hardy.