Numerical Aperture. Numerical aperture (NA) is defined as being equal to \( n \sin \theta \), where \( n \) is the refractive index of the medium between the objective lens and the object (n=1 for air) and \( \theta \) is half the angular aperture (or acceptance angle of image-forming rays) of the objective lens (Jenkins and White 1957).

In mathematics, a real-valued function is a function whose values are real numbers. In other words, it is a function that assigns a real number to each member of its domain. Real-valued functions of a real variable (commonly called real functions) and real-valued functions of several real variables are the main object of study of calculus and, more generally, real analysis.

Euler made important contributions to complex analysis. He introduced the scientific notation. He discovered what is now known as Euler’s formula, that for any real number, the complex exponential function satisfies \( e^{i\theta} = \cos \theta + i\sin \theta \). This has been called “the most remarkable formula in mathematics” by Richard Feynman. Euler’s identity is a special case of this:

The Princeton Series in Applied Mathematics publishes high quality advanced texts and monographs in all areas of applied mathematics. Books include those of a theoretical and general nature as well as those dealing with the mathematics of specific applications areas and real-world situations. Chaotic Transitions in Deterministic and Stochastic Dynamical Systems: ...


Copyright code : 694045758c383aedef8d8cf1ccc0804f