

INTRODUCTORY REMARKS.

1. **GEOMETRY** is the science which enables us to investigate the relations existing between parts of space, whether they be lines, surfaces (superficies), or solids.

2. The term Geometry is derived from two Greek words, pronounced **GE** (g hard), *the earth*, and **METRINE**, *to measure*: Geometry, therefore, in the simplest acceptation of the word, means, "*measurement of the earth.*"

3. Geometry in this form is said to have been first practised by the Egyptians, in order to restore the landmarks that were swept away and destroyed by the yearly inundation of the river Nile.

4. From this germ of practical measurement (if the account be true) Geometry grew into a theoretical science. Experimental processes gradually indicating and forming definite rules, by which we are enabled to test the truth of any proposition in Theoretical Geometry by mathematical reasoning, and construct or build up, by the use of rule and compasses, various forms and figures in practical or applied Geometry, to which Architecture, Engineering, Mapping and Surveying, and other kindred arts and sciences, are so intimately allied.

5. The first schools of Geometry are said to have been established by Thales, 600 B.C., and Pythagoras, who flourished sixty years later: the science was advanced by Plato, Eudoxus, and others.

6. It was left for Euclid to bring into a well-ordered and connected chain the first principles of Geometry that had been taught by these early geometers.

7. Some historians assign Alexandria, in Egypt, as the birthplace of Euclid; others assert that he was born at Tyre. It is certain, however, that he founded a school of mathematics at Alexandria, and flourished there circa 323—284 B.C., in the reign of Ptolemy, the son of Lagus: the time of his death is not known.

8. His writings were numerous; the most renowned of all his works is his "*Elements of Geometry*," in fifteen books. The fourteenth and fifteenth books, are supposed to have been added by Hypsicles of Alexandria, about 170 A.D. A monk of Bath, named Adelard, is said to have first translated the "*Elements*" into Latin in the reign of Henry I.: Henry Billingsley, afterwards lord-mayor of London, first rendered them into English A.D. 1570.