

Lesson 3: Proposition 1.1

Explanation of Terms

Propositions: properties of figures obtained by processes of reasoning. They are divided into theorems and problems.

Theorem: formal statement that may be demonstrated from known propositions. It consists of two parts, the hypothesis, that which is assumed, and the conclusion, that which is asserted to follow.

Q.E.D. (quod erat demonstrandum): which was to be demonstrated.

Problem: a proposition in which something is proposed to be done under some given conditions.

Q.E.F. (quod erat faciendum): which was to be done.

Labeling

Geometric Symbol	Interpretation	Example
\angle or \sphericalangle	Angle	
\triangle	Triangle	
Capital letter	Point	
\leftrightarrow	Line	
—	Line Segment	
\rightarrow or \leftarrow	Ray	
\parallel	Parallel	
\perp	Perpendicular	
\cong	Congruent	
\sim	Similar	

Angles:

Lines:

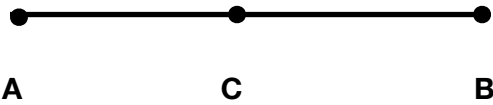
Closed Figures:

Triangles:

Congruent Sides and Angles:

Sample Proof

If a point C lies between two points A and B such that $\overline{AC} = \overline{BC}$, then prove that $\overline{AC} = \frac{1}{2}\overline{AB}$.



Proposition 1 (Problem): On a given finite straight line to construct an equilateral triangle.