

# 尺规作图

## 1. Greek Construction

### • Axioms of Greek Construction

- ↳ Axiom 1: any two points can be joined to create a line segment (两点连线得线段).
- ↳ Axiom 2: Any line segment can be extended to a line (线段可被延长成直线).
- ↳ Axiom 3: given any point and any line segment (length), we can draw a circle that has the point as its center and the length as its radius. (已知点和线长, 可以以点作圆心, 线长为半径作圆).
- ↳ Axiom 4: The only way points are born is of the intersection of two lines, two circles, or lines and circles. (新点只产生于两线/两圆相交).

## 2. Theorem:

- 1). Given any line segment, its perpendicular bisector can be cons.
- 2). ..... bisector .....
- 3). Angle and line segment can be copied.
- 4). If angles  $\alpha$  and  $\beta$  are cons., then:
  - ①. The  $\alpha + \beta$  ✓.
  - ②. for  $n \in \mathbb{N}$ .  $n\alpha$  ✓.
- 5).  $P_3$ .

