AXIOMS FOR CONSTRUCTIBILITY

In what follows, we identify the euclidean plane with the set of complex numbers $\mathbb{C}$. All fields are assumed to be subfields of $\mathbb{C}$.

A collection $\mathcal{C}$ of points, lines, and circles is *constructible* if it satisfies the following conditions.

(1) $\mathcal{C}$ contains both 0 and 1.

(2) (Euclid's first and second postulates.) A line which contains two points of $\mathcal{C}$ is in $\mathcal{C}$.

(3) (Euclid's third postulate.) A circle which contains a point of $\mathcal{C}$, and whose center is in $\mathcal{C}$, is in $\mathcal{C}$.

(4) If a point P lies in the intersection of two distinct members of $\mathcal{C}$, then $P \in \mathcal{C}$.