Geometry
Quiz 9

Name:_____

You have 10 minutes to complete this quiz. If you have a question raise your hand and remain seated. In order to receive full credit your answer must be **complete**, **legible** and **correct**. Show your work, and give adequate explanations.

(1) Define "Euclidean field" and give two Examples and two Nonexamples.

A Euclidean field is an ordered field that is closed under the formation of square roots of positive elements.
Examples: K, $\mathbb{R}$.
Nonexamples: $\mathbb{Q}$, Ω.

(2) State one way in which the geometry of a Cartesian plane over a Euclidean field is different from the geometry of a Cartesian plane over a non-Euclidean field.

The Cartesian plane over a Euclidean field satisfies the circle-circle intersection property, while the Cartesian plane over a non-Euclidean field does not.