

Geometry

Quiz 1

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) Write down Hilbert's axioms of incidence.

- I1. For any two distinct points A, B there is a unique line ℓ incident to both A and B .
- I2. Every line is incident to at least two points.
- I3. There exist three noncollinear points.

(2) Draw a picture of an incidence geometry satisfying Playfair's Postulate (Part (a)), then draw a picture of an incidence geometry not satisfying Playfair's Postulate (Part (b)).

- (a) There are many answers. You could draw an incident geometry with three points and three lines.
- (b) There are many answers here, too. You could draw an incident geometry with five points, where every line has exactly two points incident to it.