**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 $\ell$ 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.