

## tc core 122: Quiz 7

[9] (Wks 7 & §7.1) TRUE/FALSE: For each of the following determine if the statement is true or false and provide some *justification* for your answer.

1. Two perpendicular geodesics on a sphere cross only once.

2. Two perpendicular geodesics on patty paper cross only once.

3. The measure of angles in a triangle on a sphere can sum to  $270^\circ$ .

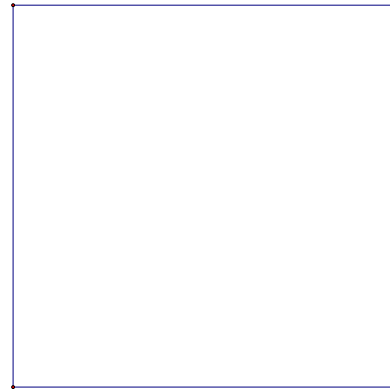
### FREE RESPONSE.

1. [2] (5/18 Lecture) Spherical geometry challenged the axioms that Euclid set out in 300BC. Kurt Gödel was a mathematician who challenged another set of axioms. What axioms did Gödel upset in the 1930's?

2. [2] In Chapter 7 Lang takes two preexisting origami designs and adds texture to them. Name them.

3. [2] Name one of the reasons that Lang decided not to use the basic crossed pleat when designing the Koi?

4. [2] (Lang) Draw the crease pattern for the basic crossed pleat discussed in Chapter 7 and in class on 5/16.



5. [3] Lockhart was “in the mood to think about shapes” in *The Mathematician’s Lament*. What shapes did he start working with and what question did he ask? That is, what “little narrative” did he give to illustrate the mathematician’s art?