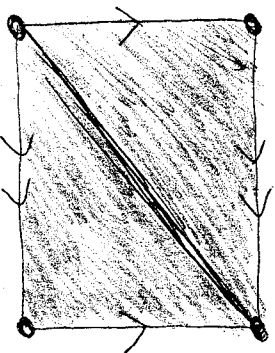
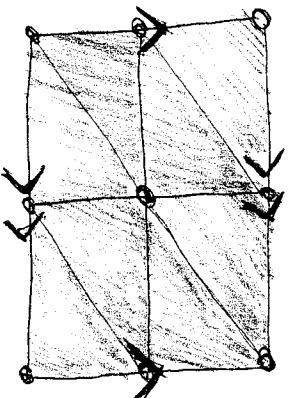


Additional Problems for Part I A particular simplicial decomposition of T^2

- (1) Explain why the following diagram is NOT a simplicial decomposition of T^2 .



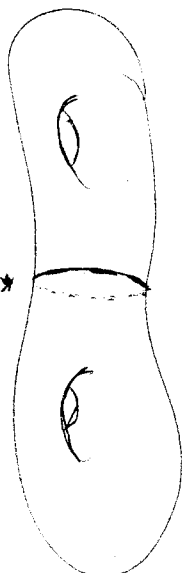
- (2) What about this diagram? Is it a simplicial decomposition of T^2 ? Why or why not?



- (3) Alter the diagram above to make it into a simplicial decomposition, St of T^2 .
- (4) What is χ for the simplicial decomposition St ? Is this value consistent with your conjecture?

Generalizing this particular simplicial decomposition to other 2-manifolds

- (1) Let's look at the 2-holed torus.



- (2) Imagine we cut the 2-holed torus along the ~~diagonal line~~ ^{curve} ~~line~~. The result is two separate pieces. Draw these two pieces.
- (3) Each of these pieces is almost a torus but not quite. What would you have to do to a torus to make it look like one of these pieces?
- (4) Can you alter the particular simplicial decomposition, St , of the torus to get a simplicial decomposition of one of these pieces? Draw this altered simplicial decomposition.