1. (a) Express $T \# K$ as a connected sum of tori or projective planes.
   (b) Express $K \# K$ as a connected sum of tori or projective planes.

2. Let $F_1 = 3T$ (i.e., connected sum of 3 tori) and let $F_2 = 2P$. Two discs are removed from each of these surfaces and the resulting boundary circles glued together. What is the surface?

3. Which surface is represented by the following diagram?

![Diagram](image)

4. Find all surfaces with non-negative Euler characteristic.

5. Calculate the Euler characteristic of the following orbifolds: $T^2$, $P^4$, $D^4$. 