MATH 10
ASSIGNMENT 24: CLASSIFICATION OF SURFACES

MAY 15, 2022

Homework

1. Classify (in terms of the surfaces listed in the classification theorem) the surfaces $\mathbb{T}^2\#\mathbb{K}^2$ and $\mathbb{K}^2\#\mathbb{K}^2$.

2. Classify the triangulated surfaces from the previous homework (problem 4).

3. Classify these surfaces:

(a) ABD, BLJ, BJK, ACI, BCH, AGI, EGH, EFH, EJK, LEK, BDE, ACD, CDF, BCF, LBE, EFJ, BFK, ABG, CHI, FHI, LFK, LFJ, DFI, DGI, DEG, BGH.

(b) ABH, AHG, AGO, AOF, AFX, DAX, ADJ, ACJ, ACS, AES, AEZ, ABZ, CSW, SWR, SNR, SEN, EYZ, ZYV, VUY, PQU, ZVW, RVW, BZW, BCW, BCI, BHI, HIL, KHL, GHK, FGK, FGT, POT, OGT, OFK, PKO, PKL, PLQ, MLQ, MRQ, QRV, QUV, FTX, UTX, PTU, UYX, XDY, DEY, DEN, DNJ, MNJ, MNR, MIJ, CIJ, MIL.

4. If one removes two discs from a surface and glues the boundary circles together, does one get a surface? If yes, what surface?