

Math 10460 - Honors Mathematics II

Homework 12c - Due Wednesday, April 20

You must show your work in all of the problems!!!

Recall that S^2 is the sphere, \mathbb{T} is the torus, and \mathbb{K} is the Klein bottle.

(7) If $k, n > 0$, then

$$k\mathbb{P}\#n\mathbb{T} = m\mathbb{P}$$

for some m . Find m in terms of k and n . Recall that $\mathbb{P}\#\mathbb{T} = 3\mathbb{P}$.

(8) Suppose the surface Σ can be represented as a polygon with word given by

$$ab^{-1}a^{-1}cb^{-1}c$$

Use the classification theorem to write Σ as S^2 , $g\mathbb{T}$, or $m\mathbb{P}$.