HW

Handlebody Decomposition

Problems

1. Draw a handlebody decomposition of

   a. T^2

   b. Σ_2

   c. $\mathbb{RP}^2$

(2) Determine the number of each k-handle for

(a) $\mathbb{RP}^n$

(b) $\mathbb{CP}^n$

$$\mathbb{CP}^n = \mathbb{C}^{n+1} - \{0\} \Big/ z \sim w$$

$z \sim w \iff w = \lambda z$ for some $\lambda \in \mathbb{C}^{n+1} - \{0\}$

i.e.

$z \sim w \iff$ they are complex linearly DEP.

Q: What is $\mathbb{CP}^1$?