1.

$\mathcal{M}_g$ = $\boxed{\text{Moduli space of genus } g \geq 2.}$

$\mathcal{M}_g = \{$hyp surfaces of genus $g \geq 2$ up to isometry$\}$.

<u>Teichmüller Metric</u>

$X, Y \in \mathcal{M}_g$.

$d_T(X,Y) = \inf_f \{ \log K_f : f: X \to Y \;\; K_f \text{ quasi-conformal} \}$

$K_f = \sup_{p \in X}$ distortion at p.

dist at $p = \frac{\text{major}}{\text{min}}$

<u>ε-thick Part of $\mathcal{M}_g$</u>

$\mathcal{M}_g^{\varepsilon} = \{ X \in \mathcal{M}_g :$ Shortest curve on X has (hyp) length $\geq \varepsilon \}$.

- $\mathcal{M}_g^{\varepsilon}$ is compact $\forall \varepsilon$.

i.e. pinch a curve to leave compact set of $\mathcal{M}_g$.

~~Q: What is the "shape" of $\mathcal{M}_g^{\varepsilon}$?~~

~~directions to go off. recorded by~~ $\mathcal{C}(S)/MCG$

elementary hyp geometry $\Rightarrow$ can't pinch 2 intersecting curve at the same time

directions recorded by $\mathcal{C}(S)/MCG$