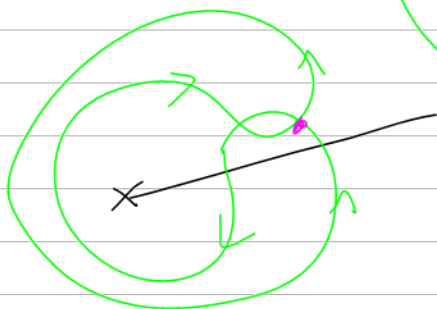
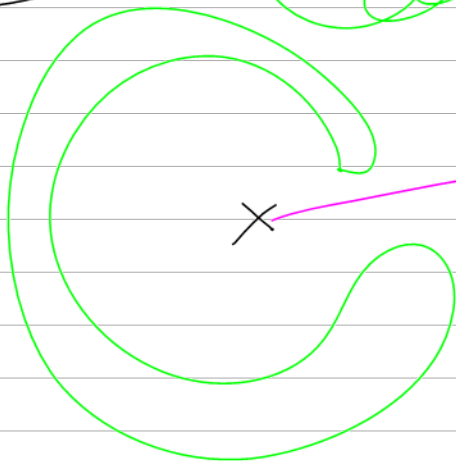
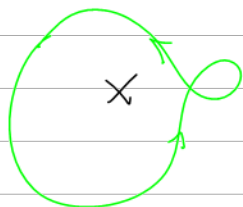
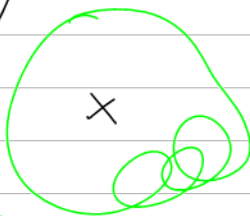
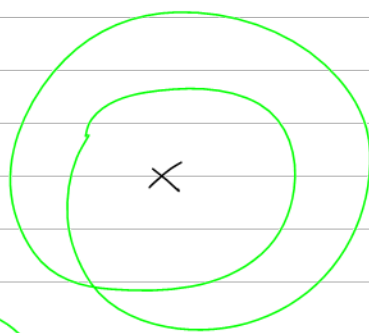
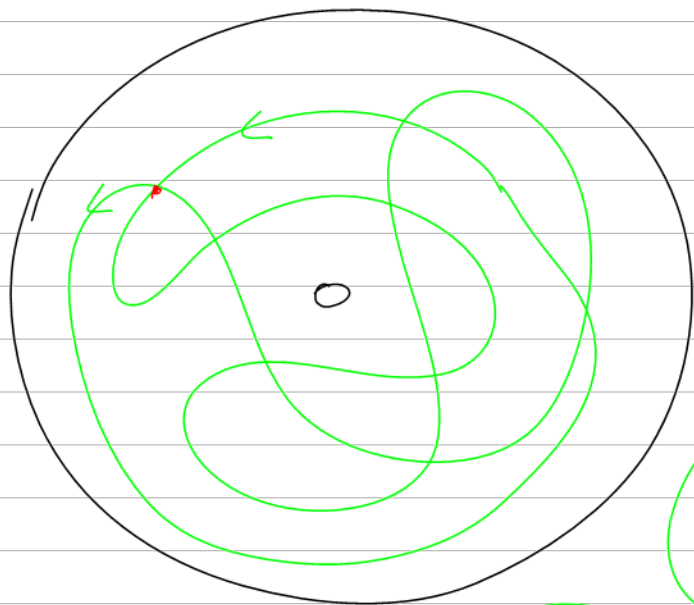
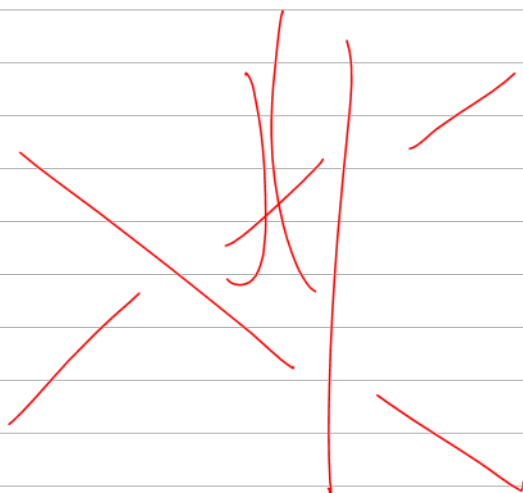
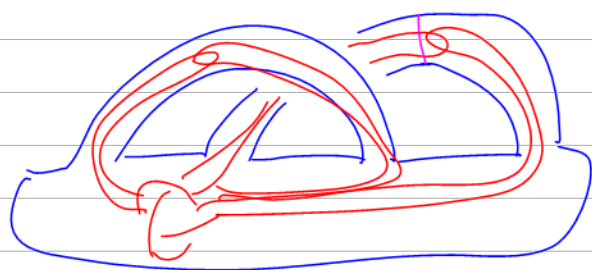
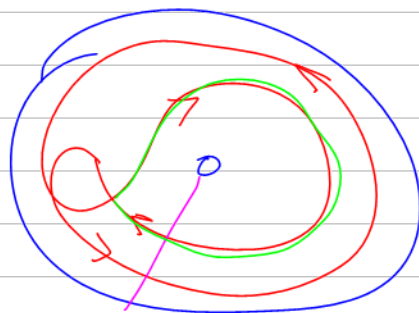
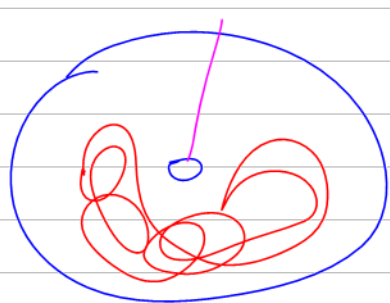


$$\gamma \subset \mathbb{R}^2 \times I \sim \mathbb{R}^3$$

$$\subset \Sigma_g \times I$$



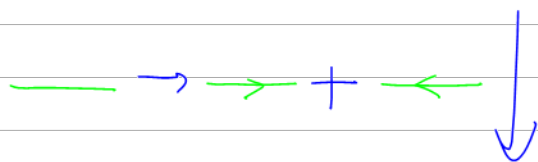
Q In the annulus, is it true that every contractible curve that is not manifestly contractible, has an odd intersection?



$$A = \langle \text{circle with 4 internal lines} \rangle / 4T$$

$$= \text{diagram 1} - \text{diagram 2}$$

$$|1\rangle + |2\rangle = |1\rangle + |2\rangle$$



$$A^v = \langle \text{circle with 6 internal lines and arrows} \rangle / 6T$$

$$= \text{diagram 1} + \text{diagram 2} + \text{diagram 3}$$

$$\text{diagram 4} = \text{diagram 5}$$

[BHLR]

