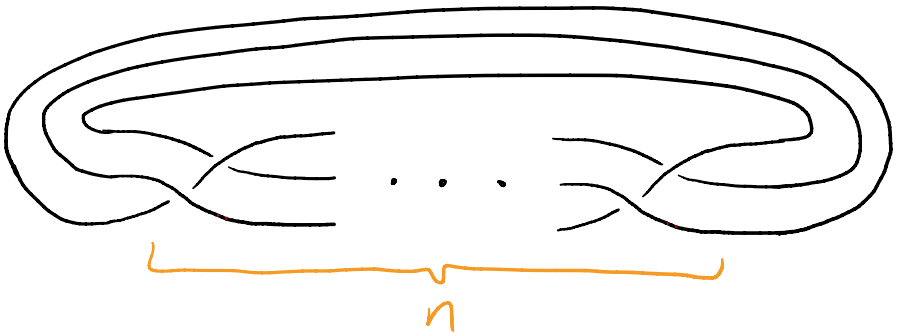
# Practice Problems

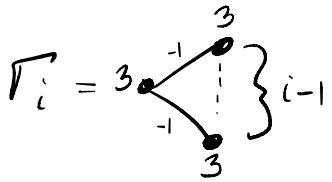
1.) What is $\Sigma_2(S^2, 2n \text{ points})$? Draw a picture.

2.) A wheel link $L_n$ is a link of the form




Show that $L_3$ and $L_5$ are $\chi$-slice.
Deduce that $\Sigma(S^3, L_3)$ and $\Sigma(S^3, L_5)$ bound $QB^4$s.

3.) For $i=3$ and $5$ show that $\Sigma_2(S^3, L_i)$ bounds a negative definite 4-manifold $X_i$ whose intersection form $Q_i$ is the incidence matrix of the graph




4.) Is there a lattice embedding $\varphi: (\mathbb{Z}^i, Q_i) \longrightarrow (\mathbb{Z}^i, I)$?
If so, what is it? Is it cubiquitous?

5.) Read page 29 in Greene-Owens
Draw for yourself the band moves and mutations completed in Figure 7.