

Given a map  $f: X \rightarrow Y$  of topological spaces, let  $\text{Cone}(f)$  &  $\text{Cyl}(f)$  denote the mapping cone & mapping cylinder of  $f$  respectively.

Q1: What (familiar) space is  $\text{Cyl}(S^1 \xrightarrow{x^2} S^1)$

i.e., What is a more common name for the mapping cylinder of the two-fold cover of the circle?

Recall: There is a canonical inclu







