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Definition 2. The *kernel* $\ker \varphi$ are the points $P \in E$ that are mapped to infinity $\mathcal{O}' \in E'$. For all isogenies we will care about, the degree $\deg \varphi$ is equal to the size of $\ker \varphi$.

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The kernel is *cyclic* if every point in $\ker \varphi$ is a multiple of some *generator* $K \in \ker \varphi$. Then, for $n = \deg \varphi$,

$$\ker \varphi = \{ K, [2]K, [3]K, \dots, [n]K \}$$