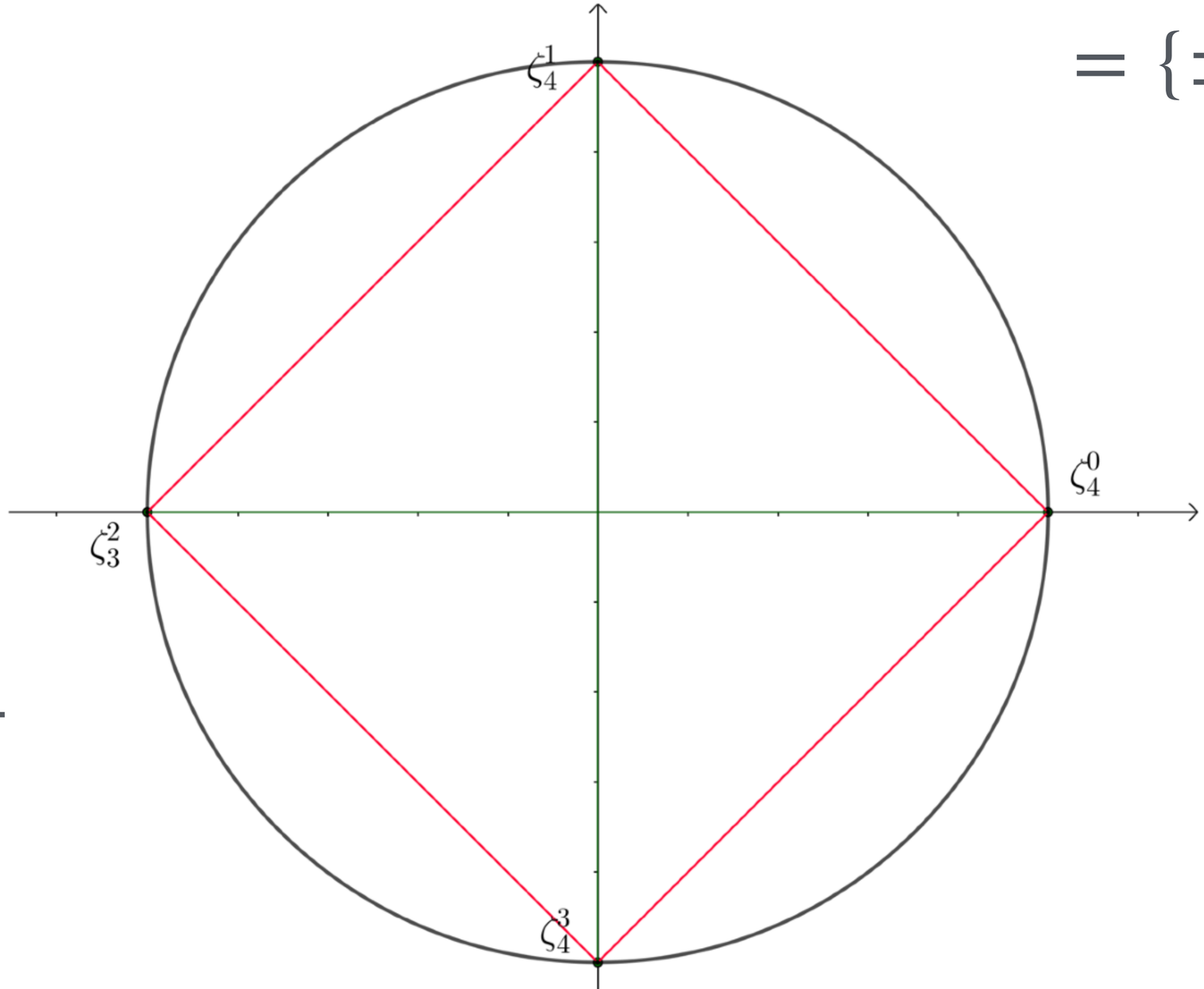
Racines de l'unité

$$\sqrt[4]{1} = \{\zeta_4^k \mid k \in \mathbb{Z}_4\}$$
$$= \{\pm 1, \pm i\}$$

$$\zeta_n^k = e^{\frac{2i\pi k}{n}}$$

$$\zeta_4^1 = e^{\frac{2i\pi}{4}}$$
$$= e^{\frac{i\pi}{2}}$$
$$= \sqrt{e^{i\pi}}$$
$$= \sqrt{-1}$$
$$= i$$



Racines de l'unité

$$\sqrt[5]{1} = \{\zeta_5^k \mid k \in \mathbb{Z}_5\}$$

$$\zeta_n^k = e^{\frac{2i\pi k}{n}}$$

$$\zeta_5^1 = e^{\frac{2i\pi}{5}}$$