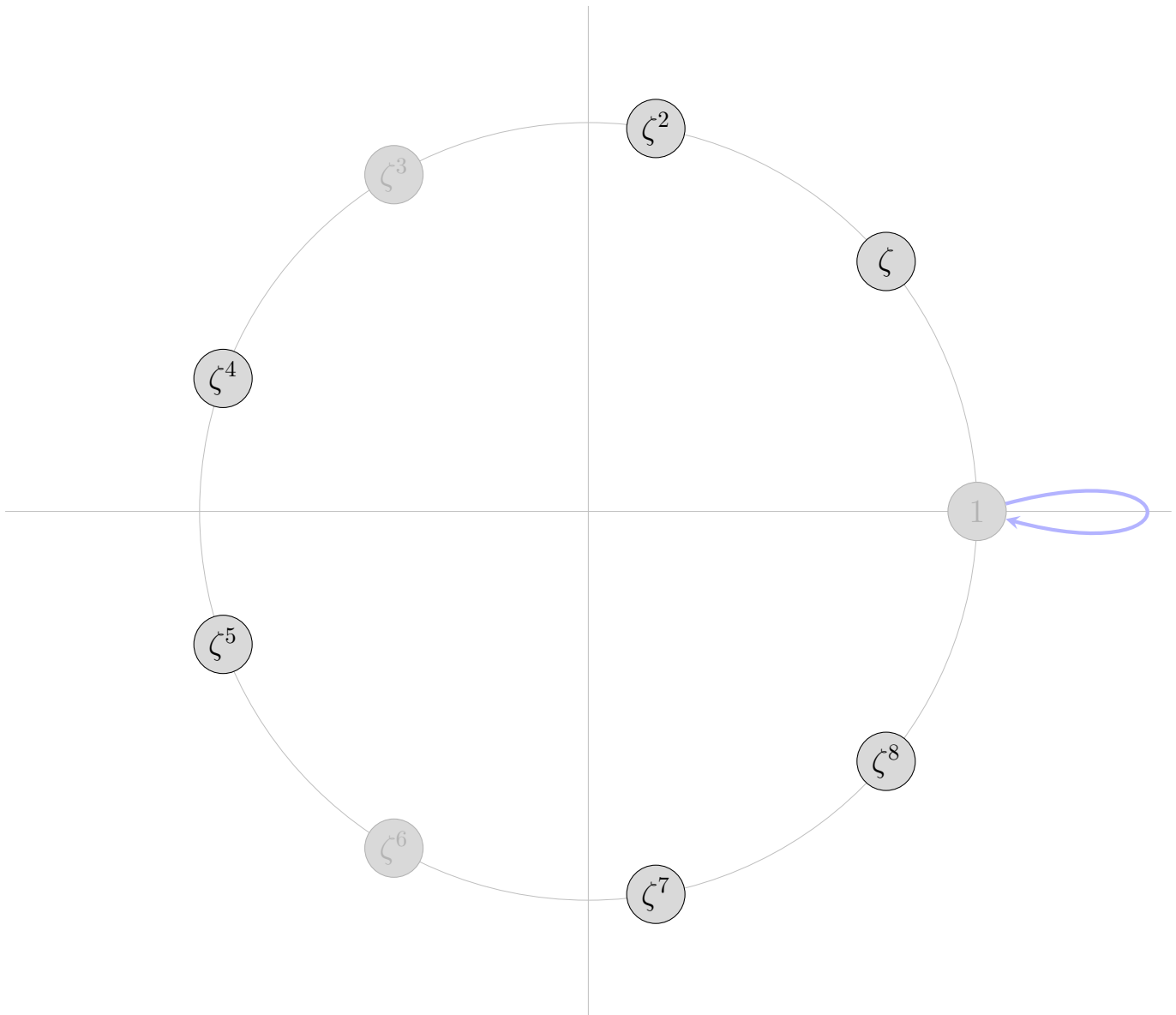


Supplemental material for Math 4130, HW 10

#1(a): The Galois group

$$G = \text{Gal}(x^9 - 1) = \langle \sigma \rangle \cong (\mathbb{Z}/9\mathbb{Z})^\times \cong C_6$$

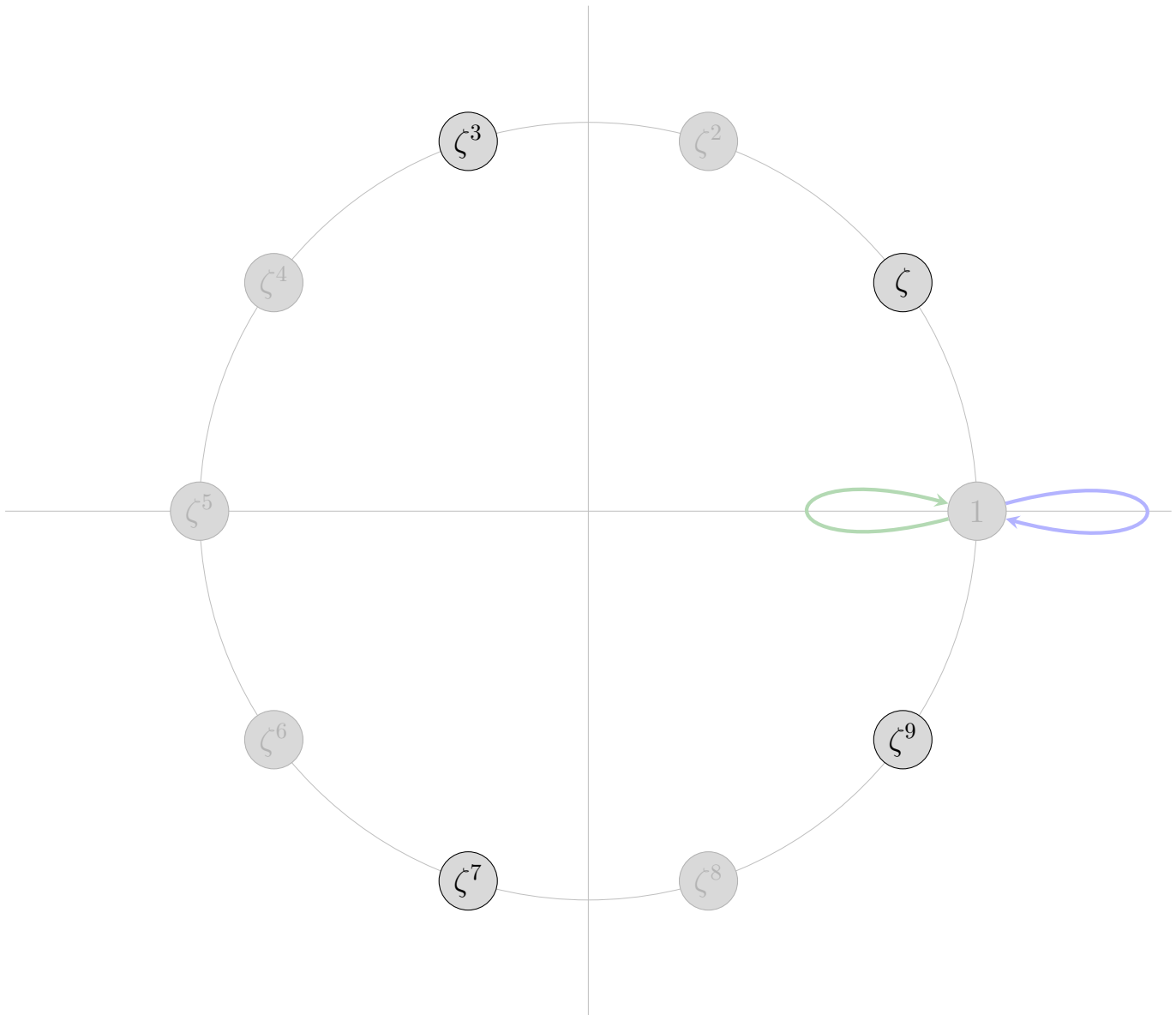
acting on the 9th roots of unity.



#1(a): The Galois group

$$G = \text{Gal}(x^{10} - 1) = \langle \sigma, \tau \rangle \cong (\mathbb{Z}/10\mathbb{Z})^\times \cong V_4$$

acting on the 10th roots of unity.



#1(a): The Galois group

$$G = \text{Gal}(x^{16} - 1) = \langle \sigma, \tau \rangle \cong (\mathbb{Z}/16\mathbb{Z})^\times \cong C_4 \times C_2$$

acting on the 16th roots of unity.

