Q5: First note that $\sigma_1 = (25)(34)$ and $\rho^2 = (14253)$. We compute their composition as

$$\rho^2\sigma_1 = (14)(23) = \sigma$$

If we instead perform the same action on a hexagon, we have that $\sigma_1 = (26)(35)$ and $\rho^2 = (153)(264)$. We compute their composition as

$$\rho^2\sigma_1 = (15)(24)$$