

Multiplication table of Isom(Sq)

Multiplication is top row first, then side column.
i.e. pick f from top row, g from side, then the corresponding entry in the table is $g \circ f$.

	1	R	R^2	R^3	ρ_x	ρ_y	α	β
1	1	R	R^2	R^3	ρ_x	ρ_y	α	β
R	R	R^2	R^3	1	α	β	ρ_y	ρ_x
R^2	R^2	R^3	1	R	ρ_y	ρ_x	β	α
R^3	R^3	1	R	R^2	β	α	ρ_x	ρ_y
ρ_x	ρ_x	β			etc			
ρ_y	ρ_y							
α	α							
β	β							

1 = identity map.

R = rotation $\pi/2$ anticlockwise.

ρ_x = reflection in x -axis, ρ_y = same in y -axis.

α = reflection in diagonal ($x = y$).

β = reflection in anti-diagonal ($x = -y$).