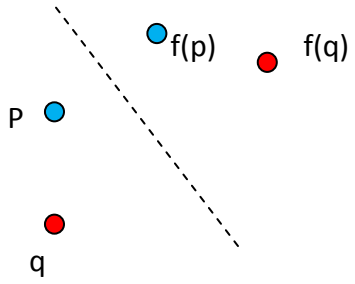
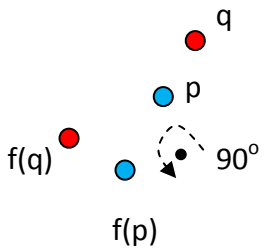
Definition (Plane Symmetry). A bijective mapping (function) from the plane to itself that preserves distances. There are 4 types:

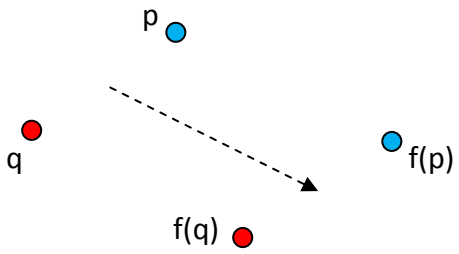
Reflection



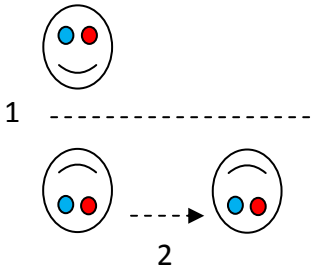
Rotation



Translation

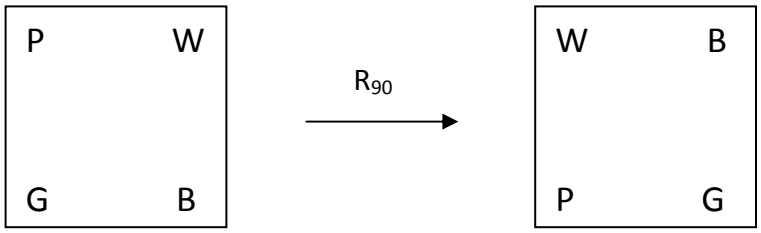


Glide Reflection

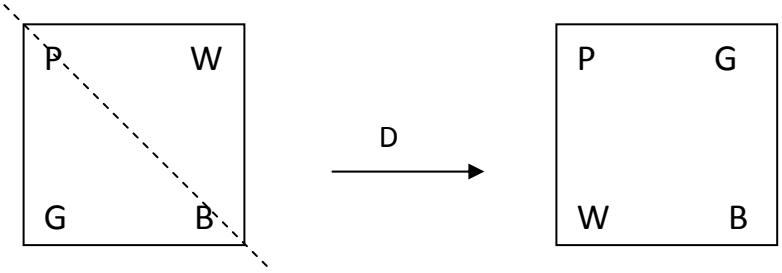


Definition (Plane Symmetry of a Figure). A bijective mapping (function) from the plane to itself that sends the points of a figure F to itself and preserves distances.

(For bounded figures we usually consider only rotations and reflections.)



$R_{90}(P) = G$ $R_{90}(G) = B$ $R_{90}(B) = W$ $R_{90}(W) = P$



$D(P) = P$ $D(G) = W$ $D(B) = B$ $D(W) = G$

Composition and Closure