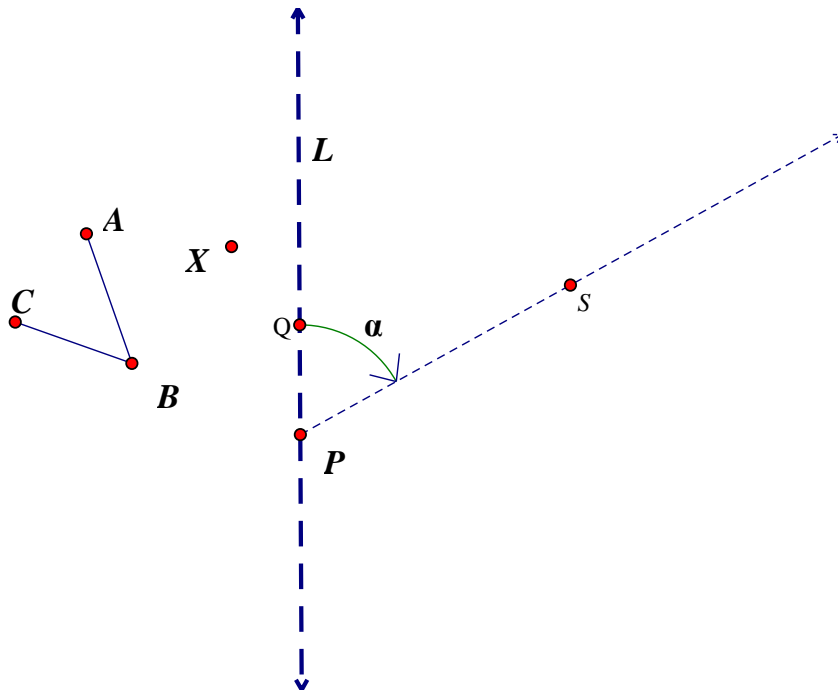


Practice with isometries and function notations.



Let  $f$  be the reflection of the plane across line  $L$ .

Let  $g$  be the rotation of the plane around  $P$  through the angle that rotates point  $Q$  onto the ray  $\overline{PS}$

1. Draw the points  $f(X)$ ,  $g(X)$ ,  $f \circ g(X) = f(g(X))$  and  $g \circ f(X) = g(f(X))$
2. Use the isometries given to name 4 line segments that are congruent to  $\overline{AB}$
3. Use the isometries given to name 4 angles that are congruent to  $\angle ABC$
4. Given that  $P \in L$ , prove that  $P$  is a fixed point of  $f \circ g$ .
5. Given that  $Q \in L$ , prove that  $g(f(S)) \in L$ .