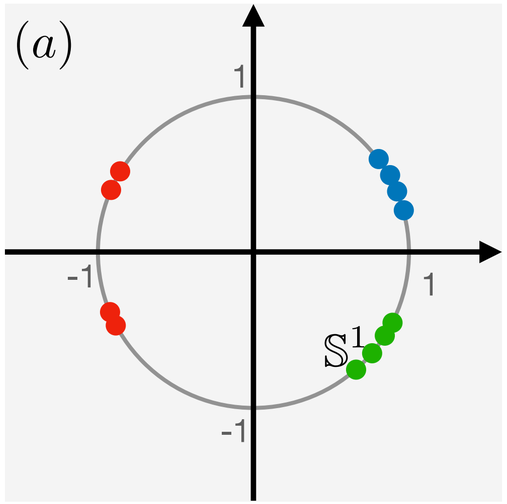
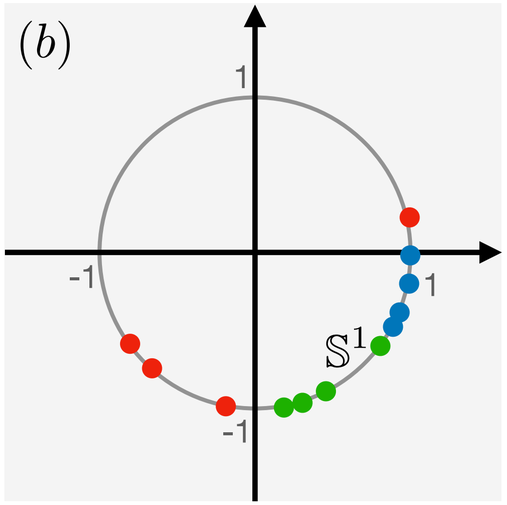
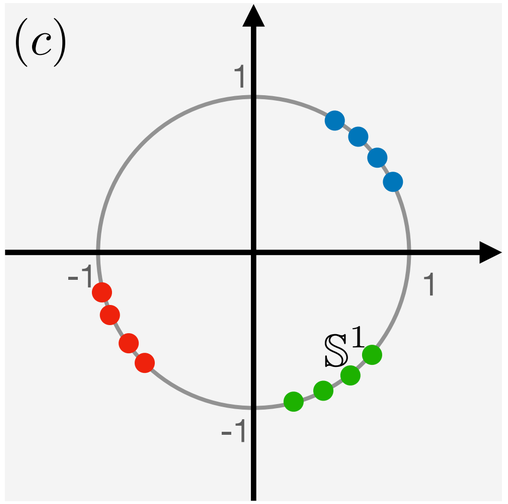
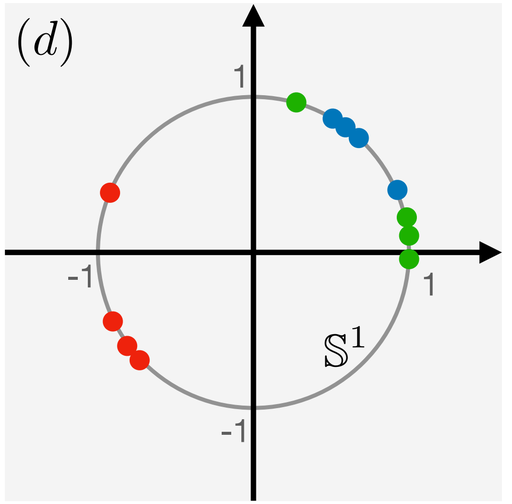
$N = 3$

- $f(x)\colon x \sim p_1$
- $f(x)\colon x \sim p_2$
- $f(x)\colon x \sim p_3$