(1) **Symmetries of the conformal models.** Show that each of the following isometries (the “obvious symmetries” of the conformal models of $\mathbb{H}^2$) is a product of two hyperbolic reflections, and in each case decide whether it is a rotation, translation, or parabolic isometry of the hyperbolic plane:

(a) A map $R : \Delta_p \to \Delta_p$ obtained by restricting a Euclidean rotation of $\mathbb{R}^2$ centered at $(0,0)$ to the unit disk.

(b) The map $T_t : H \to H$ defined by $T_t(x,y) = (x + t, y)$, where $t \in \mathbb{R}$.

(c) The map $D_t : H \to H$ defined by $D_t(x,y) = (tx, ty)$, where $t > 0$.

(2) **Further properties of isometries.** Complete exercises 7, 9, 10, and 14 on p. 373 of Greenberg.