

General Mathematics and CPS II

Exercise 7

February 26, 2014

1. (Ivanov, p. 36, Problem 14.) Show that
 - (a) $R_{\ell_1} R_{\ell_2} = R_{\ell_2} R_{\ell_1}$ if and only if ℓ_1 and ℓ_2 are perpendicular;
 - (b) $R_{\ell} H_A = H_A R_{\ell}$ if and only if $A \in \ell$.
2. Use the matrix form of the equation for a reflection (see handout) to show that the composition of reflections about parallel lines is a translation $\Pi_{\mathbf{v}}$. Find an expression for the translation vector \mathbf{v} .