Affine Lie algebras and applications
Ten-minutes problem 6

Let $A = \begin{pmatrix} 2 & -2 \\ -2 & 2 \end{pmatrix}$. Compute the canonical central element and the basic imaginary root. Compute the values of the invariant form on the standard basis vectors of $\mathfrak{h}$ and $\mathfrak{h}^*$.