Exercises on computing extensions in homotopy or derived categories

(1) Let R be a ring and $X, Y \in R\text{-Mod}$. Is $\mathrm{Ext}^n_R(X,Y) \simeq \mathrm{Hom}_{D(A)}(X, Y[n])$ for all $n \in \mathbb{Z}$?

(throughout: try to compute with complexes)

(2) Let $A = k[x]/(x^2)$. Compute $\mathrm{Hom}_{D(A)}(X, Y[n])$ for all $n \in \mathbb{Z}$ for the following objects X, Y: ${}_AA$, k (simple A-module), $0 \to A \xrightarrow{f} A \xrightarrow{f} \dots \xrightarrow{f} A \xrightarrow{f} A \to 0$
where $f: A \longrightarrow A$ sends 1 to x, n terms $\neq 0$

(3) Let $A = kQ$, the path algebra of the quiver $\circ \to \circ \to \circ$.
(a) Determine all $\mathrm{Ext}^n_A(X,X)$ for $n \in \mathbb{Z}$, X indecomposable in $D(A)$.
$\mathrm{Ext}^n_A(X,X) = \mathrm{Hom}_{D(A)}(X, X[n])$

(b) For which $n \in \mathbb{Z}$ can $\mathrm{Hom}_{D(A)}(X, Y[n])$ be non-zero for some indecomposable objects X, Y in $D(A)$?

(c) Determine all modules ${}_AX = X_1 \oplus X_2 \oplus X_3$ with X_1, X_2, X_3 indecomposable, pairwise nonisomorphic such that $\mathrm{Ext}^n_A(X,X) = 0 \ \forall n \neq 0$.
For each such X, compute the endomorphism ring, and $\mathrm{pdim}(X)$.
For each such X, decide if in $D(A)$ the regular module ${}_AA$ is isomorphic to a finite complex $0 \to M_1 \to M_2 \to \dots \to M_n \to 0$ (some n) with all $M_i \in \mathrm{add}\, X$.

(4) Let A be a finite dimensional algebra, ${}_AAe$ $(e = e^2)$ indecomposable projective and $T = \begin{array}{c} 0 \to 0 \to A(1-e) \to 0 \\ \oplus \\ 0 \to P \xrightarrow{f} Q \to 0 \end{array}$ for some P, Q projective

Give criteria on P, Q and f such that $\mathrm{Hom}_{D(A)}(T, T[n]) = 0 \ \forall n \neq 0$.
Give examples of such complexes T, where $P \neq 0$, for explicit algebras, eg for path algebras of quivers. Compute then the endomorphism ring of T in $D(A)$.