Problem JV26.A. Show that a group is a category with one object in which all morphisms are isomorphisms.

Problem JV26.B. Let $\mathcal{C}$ be a category and let $A$ be a fixed object in $\mathcal{C}$. Define a category $\mathcal{C}_A$ whose objects are arrows $f : Z \to A$ in $\mathcal{C}$. What are the morphisms in $\mathcal{C}_A$? Draw a diagram illustrating associativity of the composition law.