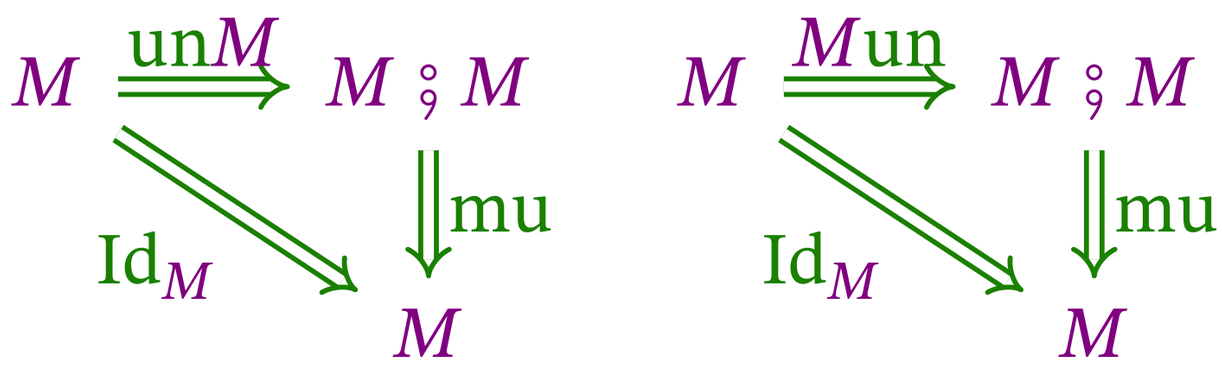
Definition (Monad)**.** Let $\mathbf{C}$ be a category. A *monad* on $\mathbf{C}$ is specified by: Constituents

1. A functor $M : \mathbf{C} \to \mathbf{C}$;
2. A natural transformation $\mathrm{un} : \mathrm{Id}_{\mathbf{C}} \Rightarrow M$, called the *unit*;
3. A natural transformation $\mathrm{mu} : M \fatsemi M \Rightarrow M$, called the *composition* or *multiplication*.

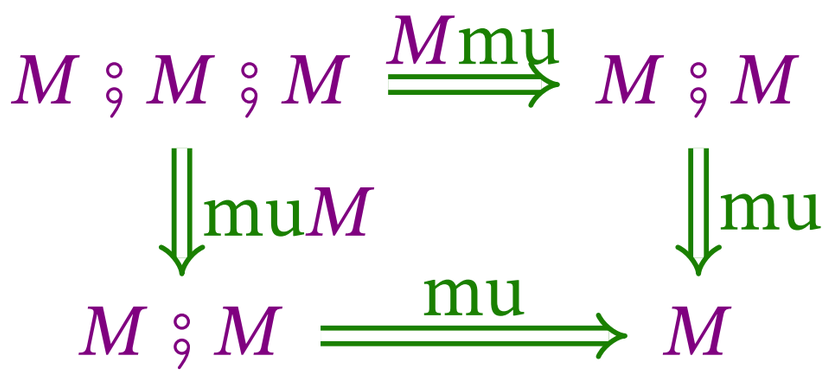
Conditions

1. *Left and right unitality*: the diagrams



must commute.

2. *Associativity*: the diagram



must commute.