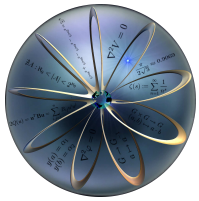

planetmath.org

Math for the people, by the people.

invertible sheaf

Canonical name	InvertibleSheaf
Date of creation	2013-03-22 13:52:34
Last modified on	2013-03-22 13:52:34
Owner	Mathprof (13753)
Last modified by	Mathprof (13753)
Numerical id	8
Author	Mathprof (13753)
Entry type	Definition
Classification	msc 14A99

A sheaf $\mathfrak{L}$ of $\mathcal{O}_X$ modules on a ringed space $\mathcal{O}_X$ is called if there is another sheaf of $\mathcal{O}_X$-modules $\mathfrak{L}'$ such that $\mathfrak{L} \otimes \mathfrak{L}' \cong \mathcal{O}_X$. A sheaf is invertible if and only if it is locally free of rank 1, and its inverse is the sheaf $\mathfrak{L}^\vee \cong \mathcal{H}om(\mathfrak{L}, \mathcal{O}_X)$, by the map.

The set of invertible sheaves form an abelian group under tensor multiplication, called the Picard group of X.