Problem 0.1. Let $\phi : \mathscr{F} \to \mathscr{G}$ be a morphism of sheaves.

    (a) Show that $\operatorname{im} \phi \cong \mathscr{F}/\ker \phi$.

    (b) Show that $\operatorname{coker} \phi \cong \mathscr{G}/\operatorname{im} \phi$.

Proof. Insert proof here. $\qquad\square$

    You don't need to worry about numbering the problems, latex will automatically number them once we combine them.

    For your convenience, here are some symbols, placed in "Math632Macros.sty" that you might find useful.

    (i) The structure sheaf of a variety X, $\mathcal{O}_X$.

    (ii) A curly Hom used for sheaves, $\mathscr{H}om$.

   (iii) The complex number, $\mathbb{C}$.

   (iv) The spectrum of a ring, $\operatorname{Spec} R$.

    (v) The proj of a graded ring, $\operatorname{Proj} R$.

   (vi) The support of a sheaf $\mathscr{F}$, $\operatorname{Supp} \mathscr{F}$.

   (vii) The picard group of a variety, $\operatorname{Pic} X$.

  (viii) The annihilator of a module M, $\operatorname{Ann}_R M$.