Let $δ=\sqrt{-3}$ and $R=Z[δ]$. This is not the ring of integers in the imaginary quadratic number field $Q[γ]$. Let $A$ be the ideal $(2,1+γ)$.

a) Show that $A$ is a maximal ideal and identify the quotient ring $R/A$.

b) Show that $A$ contains the principal ideal $(2)$ but that $A$ does not divide $(2)$.