If $A \xrightarrow{\varphi} B \xrightarrow{x} \mathbb{C}$

get $\pi\varphi$ $\longrightarrow \mathbb{C}$

Topics for Affine Algebraic Geometry

- localization (adjoining inverses)
- integral extensions (B a finite A-module)
- prime ideals
- dimension

Ex: $A = \mathbb{C}[x]$ · spec $A = \mathbb{A}^1$

$B = A[g^{-1}]$ g some non-zero polynomial

Spec B?

$$B = A[y]/(yg-1) = \mathbb{C}[\overset{x_1,\dots,x_n}{\overset{\downarrow}{x}}, y]/(yg(x)-1)$$

Spec B = locus $yg = 1$ in $\mathbb{A}^{n+1}_{x,y}$

Say $(x^0, y^0) \in$ Spec B. So $y^0 g(x^0) = 1$.

Given x^0 can   solve uniquely for y^0, provided $g(x^0) \neq 0$

If $g(x^0) = 0$, no solution.

Cor: spec $\mathbb{C}[x][g^{-1}] \underset{bij}{\longleftrightarrow}$ points of $\mathbb{A}^n_x$ where $g(x) \neq 0$