

**PREVIOUSLY...** Let  $C$  be a curve.

- $\text{Div}(C) = \left\{ D = \sum_{P \in C} n_P \cdot (P) : n_P \in \mathbb{Z}, n_P = 0 \text{ for almost all } P \in C \right\}$

- $\deg D = \sum_{P \in C} n_P$

- $\text{Div}^0(C) = \{ D \in \text{Div}(C) : \deg D = 0 \}$

- $f \in \overline{K}(C)^*, \text{div}(f) = \sum_{P \in C} \text{ord}_P(f) \cdot (P)$

- $\text{Princ}(C) = \{ D : D = \text{div}(f), f \in \overline{K}(C)^* \}$

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$\rightarrow \text{div}(f) = 0 \Leftrightarrow f \in \overline{K}^*$

$\rightarrow \deg(\text{div}(f)) = 0$

$\rightarrow$  ex  $\text{div}(x - e_i) = 2 \cdot (P_i) - 2 \cdot (O)$

$\text{div}(y) = (P_1) + (P_2) + (P_3) - 3 \cdot (O)$





















