at 2: do do $\mathbb{K}(2)$ local. of this reduce mod a power of $p$, i.e.

\[ b_2 = 0 : \text{ supersingular ell. curves} \]
\[ b_2^{-1} : \text{ nonsingular i.e. really an elliptic curve} \]

$=\mathbb{K}(2)$ - localization is the same as completion at supersingular curve

at $p = 2$ there is only one supersig

\[ y^2 + y = x^5 \]

# Aut of what? (over $\mathbb{F}_4$) is $24$

binary tetrahedral group?

Silverman

The stack reduced mod $p \& \equiv 1$

is equivalent to the stack of

Toy example: \[ \mathbb{Z}[b,c] \rightarrow \mathbb{Z}[b,c][r] \rightarrow (b^2 - 4c)^{-1} \]

$\mathbb{Z}[b,c] \rightarrow \mathbb{Z}[b,c][r] \rightarrow (b^2 + 6r + c)$

$b \mapsto b \quad b \mapsto b + 2r$

c \mapsto c \quad c \mapsto c + br + r^2$
This defines a stack \( M \) covering \[ \text{Spec} \mathbb{Z}[o] \rightarrow M \]

\[ \mathbb{P}^1_{\mathbb{Z}[o]} \]

\[ \text{Spec} \mathbb{Z}[o]/_{\mathbb{Z}^{n+d(b)}} \rightarrow \text{Spec} \mathbb{Z}[o] \rightarrow M \]

\( \cong \mathbb{Z}[o] \cap \mathbb{Z}/2 \)

Why is \( L_{K(2)} \) a completion?

What \( L_{K(2)} \) does to be is

\( L_{K(2)}(X) \)

\[ \lim_{\rightarrow} \mathcal{O}_X^{-1} X \wedge M(p^{n_1}, \nu^{n_2}) \]

(Telescope conjecture) true for keys