

ELLIPTIC CURVES OVER FINITE FIELDS

AN EXAMPLE

EXAMPLE Let $E/\mathbb{F}_p : y^2 = x^3 + x$, where p is an odd prime

$$E: y^2 = x^3 + x$$

p	$\# E(\mathbb{F}_p)$	$2\sqrt{p}$	$\# E(\mathbb{F}_p) - p - 1$
2	BAD	BAD	BAD
3	4	3.46...	0
5	4	4.47...	-2
7	8	5.29...	0
11	12	6.63...	0
13	20	7.21...	6
17	16	8.24...	-2
19	20	8.71...	0
23	24	9.59...	0
29	20	10.77...	-10
\vdots	\vdots	\vdots	\vdots

