

## Algebraic geometry : HW 10

1\*. Let  $E$  denote the spectrum of the ring  $\mathbf{Z}[x, y]/(y^2 - x^3 + x)$  (it is the scheme corresponding to the “curve”  $y^2 = x^3 - x$  defined over  $\mathbf{Z}$ ). How many elements does the set  $E(\mathbf{F}_5)$  have, where  $\mathbf{F}_5$  is the field consisting of 5 elements?