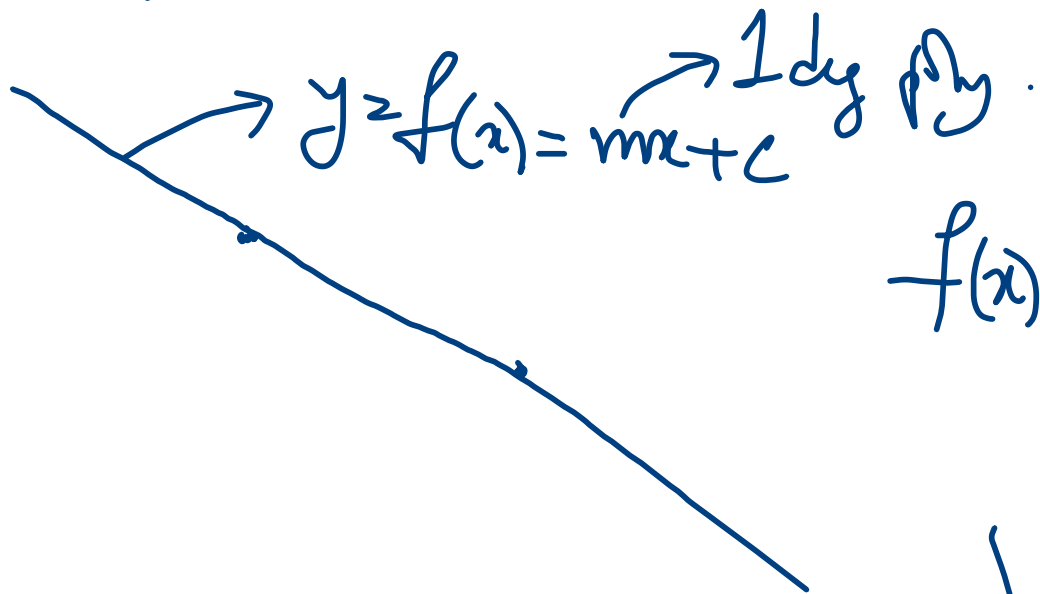
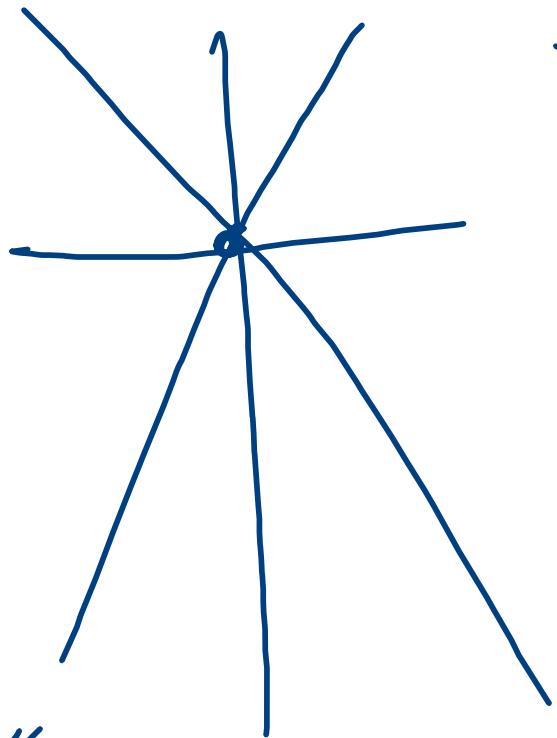
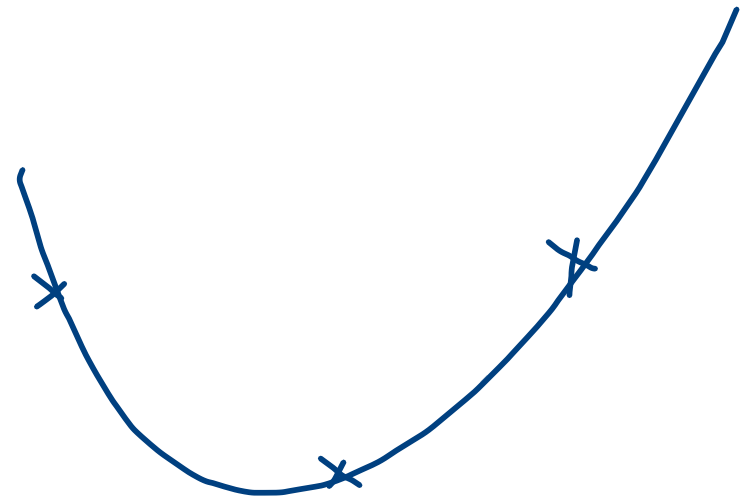


$(3,4) \rightarrow \rho \in \mathbb{R}$ .

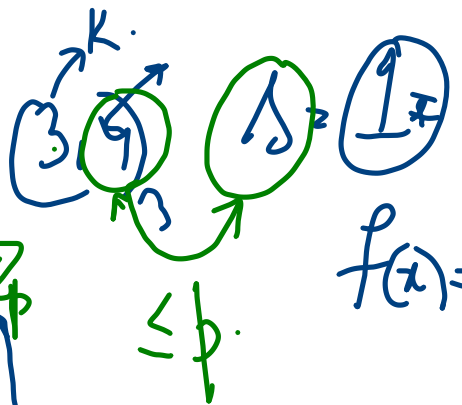


$$f(x) = ax^2 + bx + c$$

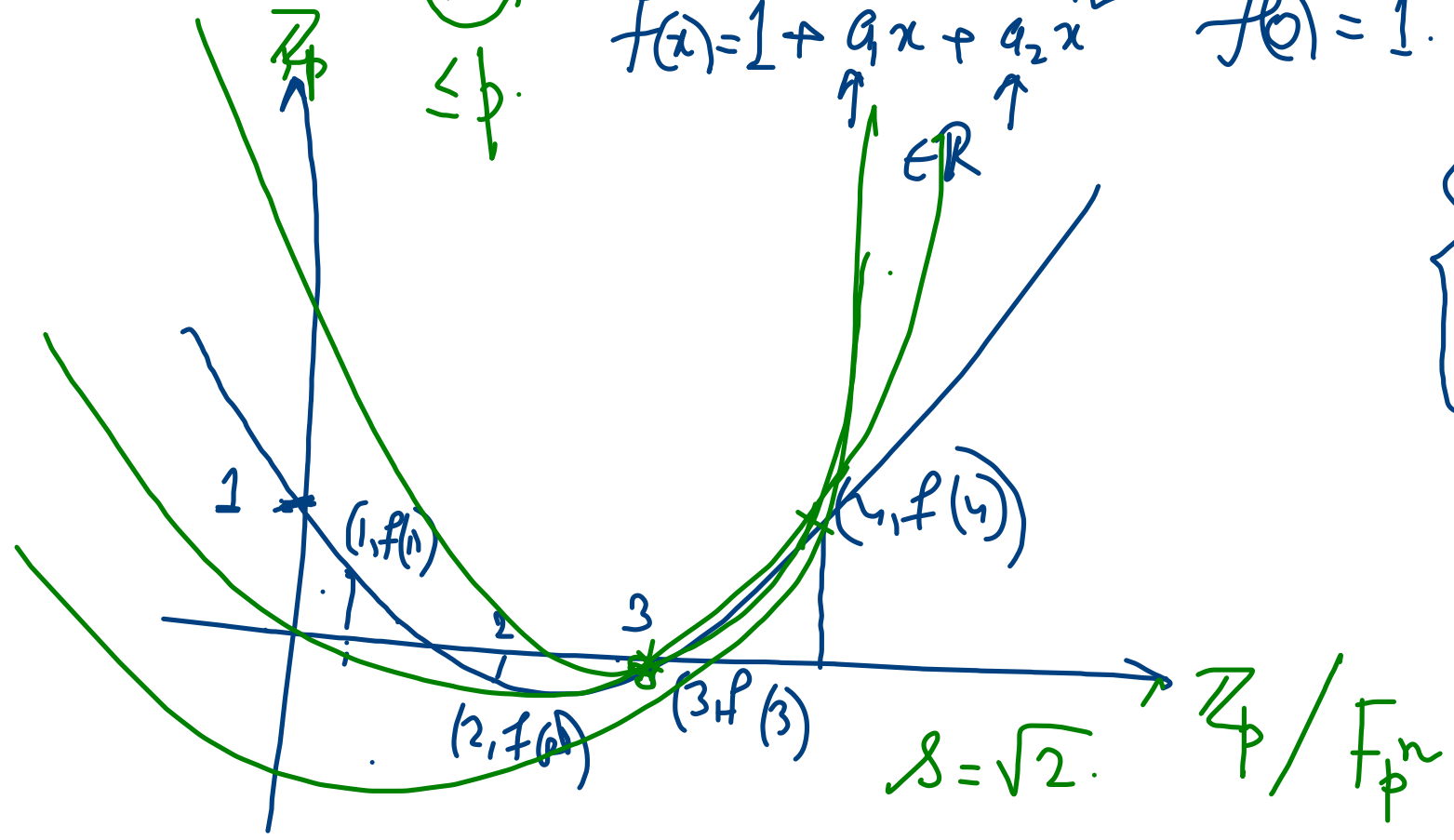


$x$

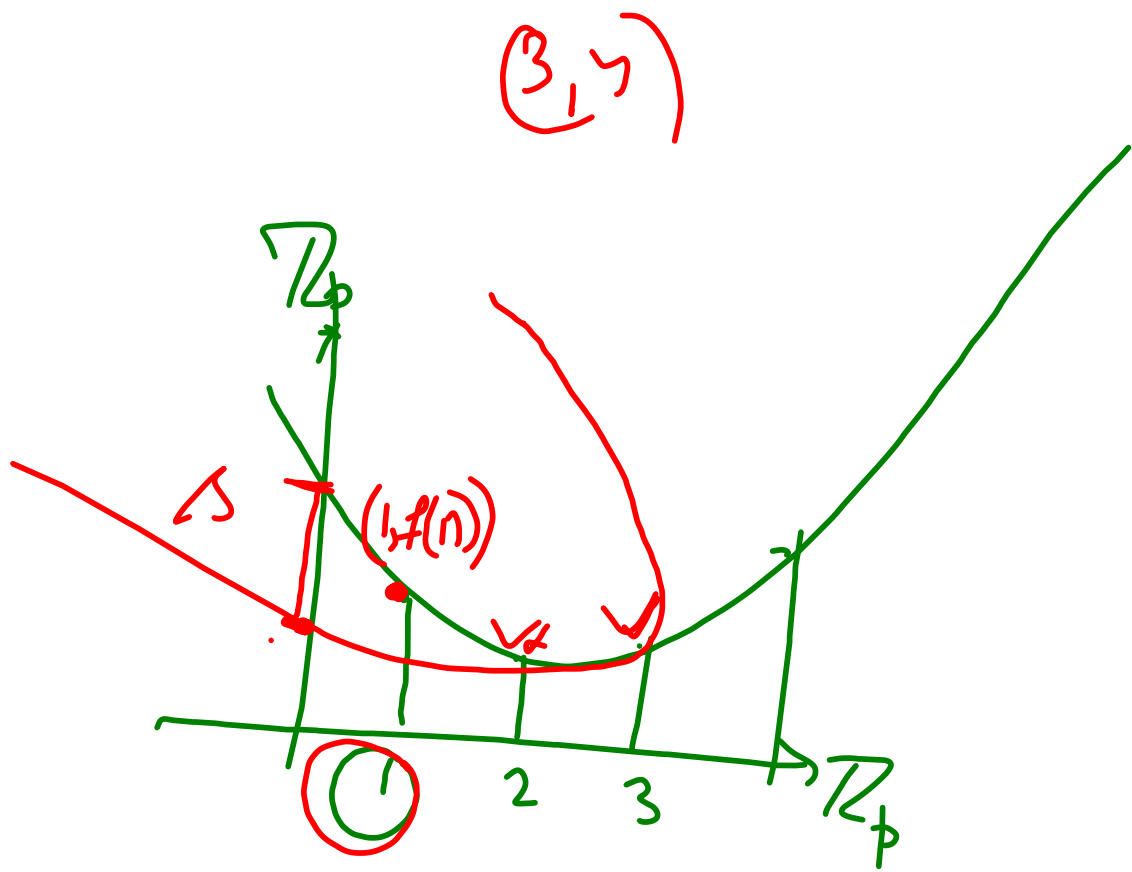
$$f(x) = a_0 + a_1x + \dots + a_{k-1}x^{k-1}$$



$$f(x) = 1 + a_1 x + a_2 x^2 \quad f(0) = 1.$$

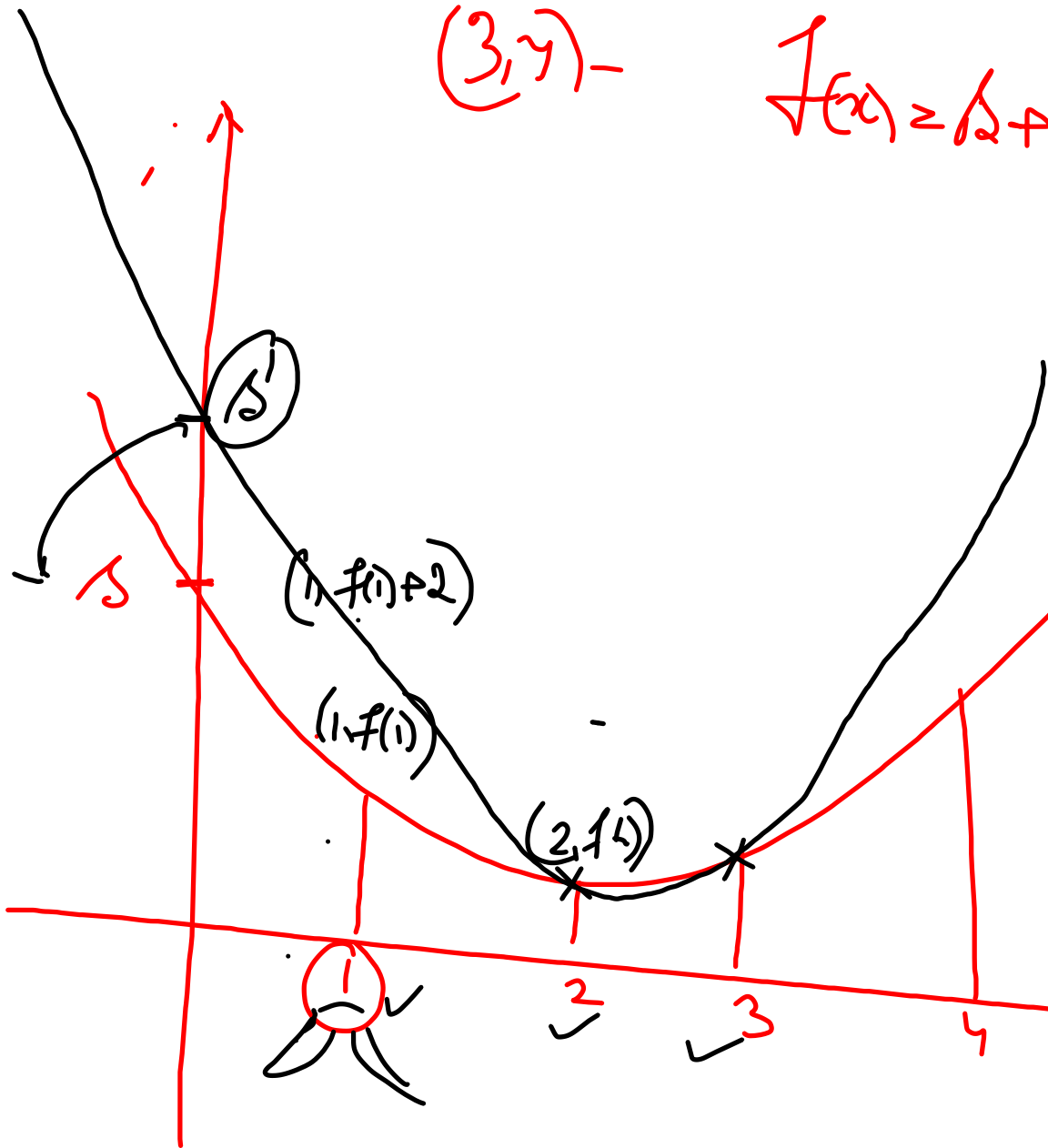


- 1  $\rightarrow (1, f(1))$
- 2  $\rightarrow (2, f(2))$
- 3  $\rightarrow (3, f(3))$
- 4  $\rightarrow (4, f(4))$



(3,7) -

$$f(x) = a_0 + a_1x + a_2x^2 \pmod{\beta}$$



{1, 2, 3}

$$g(x) = (x-2)^2(x-3)$$

$$h(x) = f(x) + g(x)$$

$$h(2) = f(2) + g(2) = f(2)$$

$$h(3) = f(3) + g(3) = f(3)$$

$$h(1) = f(1) + g(1) = \boxed{f(1) + 2}$$

$$h(0) = f(0) + g(0)$$

1/2

$$f(x) = A + a_1x + a_2x^2 \in \mathcal{P}_2(x)$$

$$(A, a_1, a_2) \in \mathcal{P}_3$$

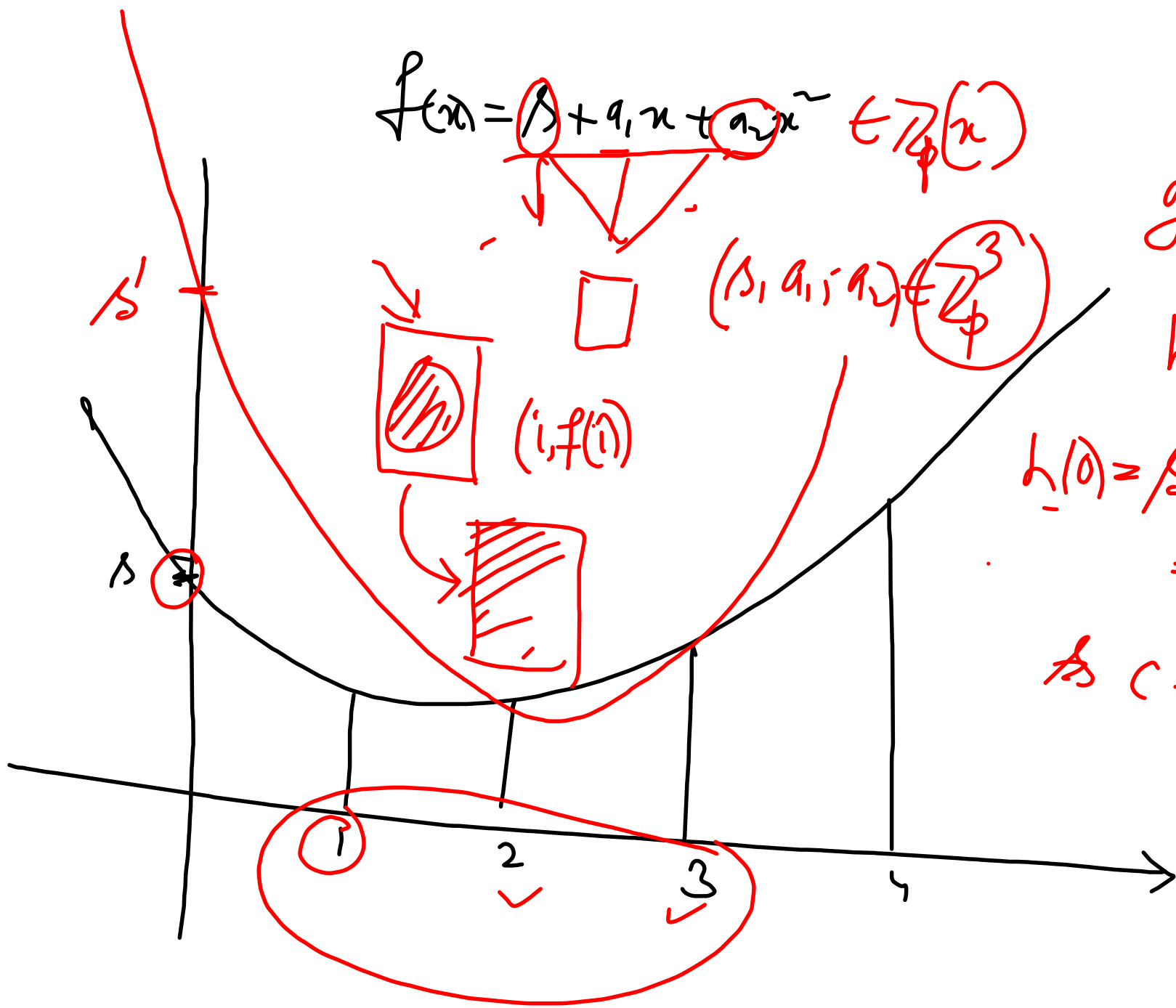
$$(i, f(i))$$

$$g(x) = c(x-2)(x-3)$$

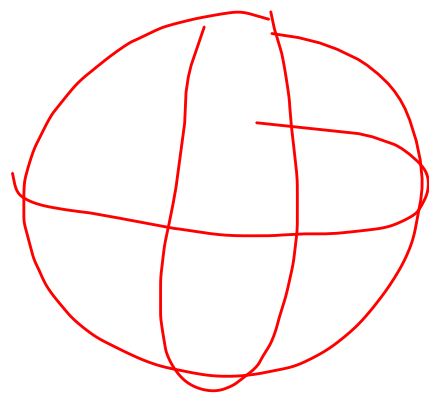
$$h(x) = f(x) + g(x)$$

$$h(0) = A = f(0) + g(0) = A + c(-2)(-3)$$

$$\Rightarrow c = \frac{1}{6}(A' - A)$$



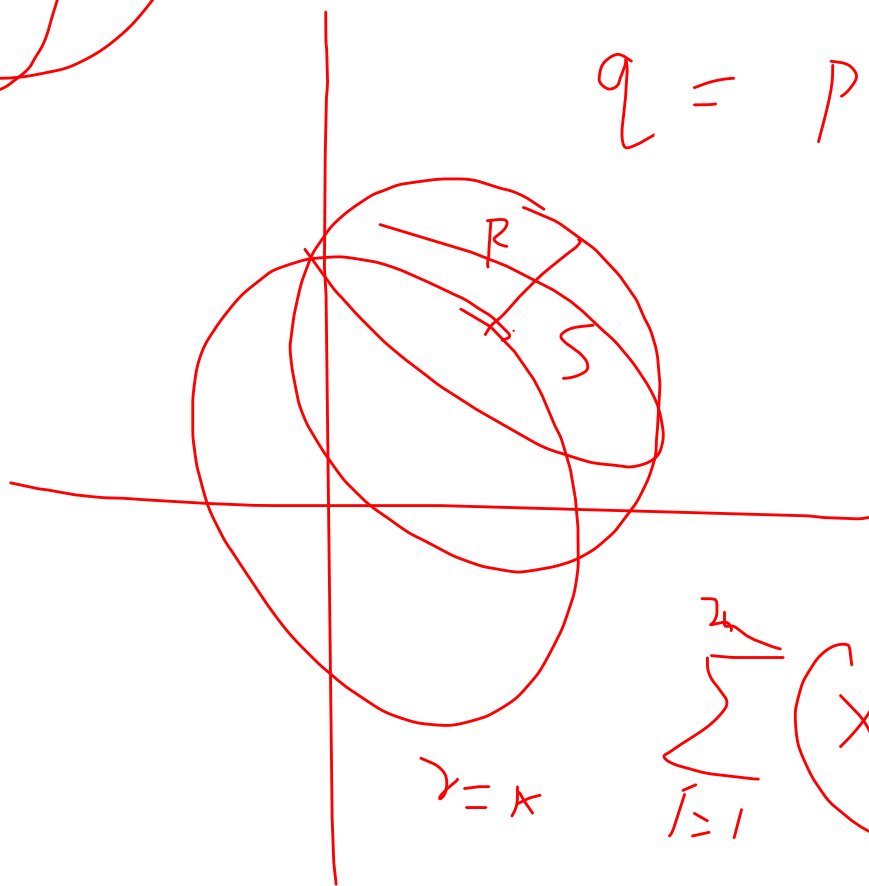
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$$\mathbb{F}_q^{\sim}$$

$$q = p^{\sim}$$

$$p \neq 2$$



S

$$\sum_{i=1}^2 (x_i - s_i)^2 = R$$