

$$P$$

$$x \leftarrow \mathbb{F}$$

$$\text{ck} = ([(x^i)_{i=0}^n]_1, [1, x]_2)$$

$$V$$

$$f(X) = \sum_{i=0}^n f_i X^i$$

$$C = [f(x)]_1 = \sum_{i=0}^n f_i [x^i]_1$$

$$\xrightarrow{C}$$

$$\xleftarrow{\alpha} \qquad \alpha \leftarrow \mathbb{F}$$

$$q(X) = \sum_{i=0}^{n-1} q_i X^i = \frac{f(X)-\eta}{X-\alpha}$$

$$\pi = [q(x)]_1 = \sum_{i=0}^{n-1} q_i [x^i]_1$$

$$\xrightarrow{\eta = f(\alpha), \pi}$$

$$(C - \eta[1]_1) \bullet [1]_2 \stackrel{?}{=} \pi \bullet ([x]_2 - \alpha[1]_2)$$