$$\sum_{i=1}^{n} x_i(y_i - a_0 - a_1 x_i) = 0$$

$$\sum xy - \sum x a_0 - \sum x^2 a_1 = 0$$

$$\sum xy - \sum x a_0 = \sum x^2 a_1$$

$$\sum xy - \sum x a_0 = a_1 \sum x^2$$

$$\frac{\sum xy - \sum x a_0}{\sum x^2} = a_1 \rightarrow \frac{\sum xy - \sum x(\bar{y} - a_1\bar{x})}{\sum x^2}$$

$$\boxed{a_0 = \bar{y} - a_1 \bar{x}}$$

$$\sum xy - \frac{\sum x \sum y}{n} + \frac{(\sum x)^2}{n} a_1 = a_1 \sum x^2$$

$$\sum xy - \frac{\sum x \sum y}{n} = a_1 \left(\sum x^2 - \frac{(\sum x)^2}{n} \right)$$

$$\frac{\sum xy - \frac{\sum x \sum y}{n}}{\sum x^2 - \frac{\sum (x^2)}{n}} = a_1$$

$$\boxed{x^2(a_0, a_1, a_2) = \sum_{i=1}^{n} (y_i - a_0 - a_1 x_i - a_2 x_i^2))^2}$$

① $\dfrac{\partial x^2(a_0, a_1, a_2)}{\partial a_0} = -2 \sum_{i=1}^{n} (y_i - a_0 - a_1 x_i - a_2 x_i^2)$

② $\dfrac{\partial x^2(a_0, a_1, a_2)}{\partial a_1} = -2 \sum_{i=1}^{n} [(y_i - a_0 - a_1 x_i - a_2 x_i^2) x_i]$

③ $\dfrac{\partial x^2(a_0, a_1, a_2)}{\partial a_2} = -2 \sum_{i=1}^{n} [(y_i - a_0 - a_1 x_i - a_2 x_i^2) x_i^2]$

① $\sum_{i=1}^{n} [y_i - a_0 - a_1 x_i - a_2 x_i^2] = 0$

$\sum_{i=1}^{n} [-a_0 - a_1 x_i - a_2 x_i^2 = -y_i]$

$\boxed{\sum_{i=1}^{n} [a_0 + a_1 x_i + a_2 x_i^2 = y_i]}$

② $\sum_{i=1}^{n} [(y_i - a_0 - a_1 x_i - a_2 x_i^2) x_i = 0)]$

$\sum_{i=1}^{n} \left[(-a_0 - a_1 x_i - a_2 x_i^2) = -\frac{y_i}{x_i}\right]$

$\sum_{i=1}^{n} [(a_0 + a_1 x_i + a_2 x_i^2)] = \frac{y_i}{x_i}$

$\boxed{\sum_{i=1}^{n} a_0 x_i + a_1 x_i^2 + a_2 x_i^3 = y_i}$

③ $\sum_{i=1}^{n} [(y_i - a_0 - a_1 x_i - a_2 x_i^2) x_i^2 = 0]$

$\sum_{i=1}^{n} \left[-a_0 - a_1 x_i - a_2 x^2 = \frac{-y_i}{x_i^2}\right]$

$\sum_{i=1}^{n} \left[a_0 + a_1 x_i + a_2 x^2 = \frac{y_i}{x_i^2}\right]$

$\boxed{\sum_{i=1}^{n} [a_0 x_i^2 + a_1 x_i^3 + a_2 x^4 = y_i]}$