*Punto 6

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

$$= y_1^2 - 2y_i (a_0 + a_1 x_1) + (a_0 + a_1 x_1)^2$$

$$= y_1^2 - 2y_1 a_0 + 2y_1 a_1 x_1 + a_0^2 + 2a_0 a_1 x_1 + a_i^2 x_i^2$$

$$x^2(a_0, a_1) = \sum y_i^2 - 2a_0 \sum y_i - 2a_i \sum y_i x_i + \dots a_i^2 \sum x_i^2$$

$$\frac{\partial x^2}{\partial a_0} = -2 \sum y_i - a_i \sum x_i = \vec{y}_i - a_i \vec{x}_i$$

$$= \sum y_1 \; a_i \sum x_i = \vec{y}_1 - a_i \vec{x}_1$$

$$\frac{\partial x^2}{\partial a_0} = -2 \sum y_1 x_1 + 2a_0 \sum x_i + 2a_i \sum x_i^2 = 0$$

$$= -\sum y_i x_i + (\sum y_i \sum x_i - a_i \sum x_i, \sum x_i) + a_1 \sum x_i^2 = 0$$

minimizar

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

$$\vdots$$

$$* \frac{\partial x^2}{\partial a_0} = -2 \sum y_i + 2Na_0 + 2a_i \sum x_i + 2a_2 \sum x_i^2 = 0$$

$$\sum_{i=1}^{n} [a_0 + a_1 x_1 + a_2 x_i^2] \cdot \frac{y_i}{N} = \underline{\bar{y}_1}$$

$$* \frac{\partial x^2}{\partial a_1} = -2 \sum y_i x_i + 2a_1 \sum x_i^2 + 2a_2 \sum x_i^3 = 0$$

$$\sum_{i=1}^{n} [a_0 x_1 + a_1 x_1^2 + a_2 x_i^3] = \underline{\frac{y_i x_i}{N} = \vec{x_i y_i}}$$

$$* \frac{\partial x^2}{\partial a_2} = -2 \sum y_i x_i^2 + 2a_1 \sum x_i^3 + 2a_2 \sum x_i^4 = 0$$

$$\sum_{i=1}^{n} [a_0 x_i^2 + a_1 x_i^3 + a_2 x_i^4] = \underline{\frac{x_i^2 y_i}{N} = \vec{x_i^2 y_i}}$$