

2. Sea $S(x)$ un spline cúbico natural definido por:

$$S(x) = \begin{cases} S_0(x) = a + \frac{1}{27}(x - x_0)^3 & \text{si } 0 \leq x \leq b, \\ S_1(x) = c + d(x - x_1) + \frac{1}{3}(x - x_1)^2 - \frac{1}{27}(x - x_1)^3 & \text{si } 3 \leq x \leq 6. \end{cases}$$

Se sabe que S interpola los datos $(0, 2)$, $(3, 3)$ y $(6, 8)$.

a) Halle x_0, x_1 :

$$x_0 = \boxed{} \quad x_1 = \boxed{}$$

b) Halle a, b, c, d :

$$\begin{array}{ll} a = \boxed{} & b = \boxed{} \\ c = \boxed{} & d = \boxed{} \end{array}$$

c) Evalúe $S(4.5)$:

$$S(4.5) = \boxed{}$$