

$$S_0(x) = \frac{a_1(x-x_0)^3}{6 \cdot \frac{1}{2}} + b_0(x_1-x) + c_0(x-x_0)$$

$$= -\frac{12}{6} \cdot 2 x^3 + b_0(\frac{1}{2}-x) + c_0 x$$

$$= -4x^3 + b_0(\frac{1}{2}-x) + c_0 x$$

$$b_0 = 0, c_0 = 2 - \frac{-12 \cdot \frac{1}{2}}{6}$$

$$= 2 + 1$$

$$= 3$$

$$\boxed{S_0(x) = -4x^3 + 3x \quad \checkmark}$$

$$S_1(x) = -4(1-x)^3 + 3(1-x)$$

$$S_1(x) = -12$$

$$-12(\frac{1}{2})^2 + 3$$

$$-\frac{12}{4} + 3$$

$$0$$

$$-12x^2 + 3 = 12(1-x)^2 - 3$$

$$12x^2 + 12(1-x)^2 = 6$$

$$12(\frac{1}{2})^2 + 12(1-\frac{1}{2})^2 = 6$$

$$\frac{12}{4} + \frac{12}{4} = 6 \quad \checkmark$$

$$12(\frac{1}{2})^2 - 3$$

$$\frac{12}{4} - 3$$

$$0$$

LCM.H
11 ON THURS