

$$13) \quad p(x) = 3 + 5x + x^2$$

$$p_0(x) = 1$$

$$p_1(x) = x$$

$$p_2(x) = \frac{1}{2} (3x^2 - 1)$$

$$\frac{10}{3} (1) + 5(x) + \frac{2}{3} \left( \frac{1}{2} (3x^2 - 1) \right)$$

$$\frac{10}{3} + 5x + \frac{1}{3} (3x^2 - 1)$$

$$\frac{10}{3} + 5x + x^2 - \frac{1}{3}$$

$$x^2 + 5x + 3 = p(x)$$