#1:   InputMode := Word

#2: $F1(x) := a1 \cdot x^3 + b1 \cdot x^2 + c1 \cdot x + d1$

#3: $F2(x) := a2 \cdot x^3 + b2 \cdot x^2 + c2 \cdot x + d2$

#4: $F3(x) := a3 \cdot x^3 + b3 \cdot x^2 + c3 \cdot x + d3$

#5: $F4(x) := a4 \cdot x^3 + b4 \cdot x^2 + c4 \cdot x + d4$

#6:   SOLVE([F1(0) = 0, F1(1) = 1, F2(1) = 1, F2(2) = 5, F3(2) = 5, F3(4)

       = 5, F4(4) = 5, F4(5) = 4, F1'(1) = F2'(1), F2'(2) = F3'(2),

       F3'(4) = F4'(4), F1''(1) = F2''(1), F2''(2) = F3''(2), F3''(4) =

       F4''(4), F1''(0) = 0, F4''(5) = 0], [a1, a2, d4, a3, a4, b1, b2,

       b3, b4, c1, c2, c3, c4, d1, d2, d3, d4])

#7: $\left[a1 = \dfrac{59}{61} \wedge a2 = -\dfrac{112}{61} \wedge a3 = \dfrac{121}{244} \wedge a4 = -\dfrac{15}{122} \wedge b1 = 0 \wedge b2 \right.$

       $= \dfrac{513}{61} \wedge b3 = -\dfrac{681}{122} \wedge b4 = \dfrac{225}{122} \wedge c1 = \dfrac{2}{61} \wedge c2 = -\dfrac{511}{61} \wedge$

       $c3 = \dfrac{1196}{61} \wedge c4 = -\dfrac{616}{61} \wedge d1 = 0 \wedge d2 = \dfrac{171}{61} \wedge d3 = -\dfrac{967}{61} \wedge$

       $\left. d4 = \dfrac{1449}{61} \right]$

#8:   Eine schnelle Möglichkeit die Funktionsterme zu erhalten.

#9:   Kopiere die Lösungen mit [F3] und ergänze Definitionspunkte und

       erstetze die Hütchen durch Kommata.

#10: $\left[a1 := \dfrac{59}{61}, \ a2 := -\dfrac{112}{61}, \ a3 := \dfrac{121}{244}, \ a4 := -\dfrac{15}{122}, \ b1 := 0, \ b2 \right.$

       $:= \dfrac{513}{61}, \ b3 := -\dfrac{681}{122}, \ b4 := \dfrac{225}{122}, \ c1 := \dfrac{2}{61}, \ c2 := -\dfrac{511}{61},$

       $c3 := \dfrac{1196}{61}, \ c4 := -\dfrac{616}{61}, \ d1 := 0, \ d2 := \dfrac{171}{61}, \ d3 := -\dfrac{967}{61},$

       $\left. d4 := \dfrac{1449}{61} \right]$

#11:   Eingabe: F1(x)= [Enter]

#12: $F1(x) = \dfrac{59 \cdot x^3}{61} + \dfrac{2 \cdot x}{61}$

#13: $F2(x) = -\dfrac{112 \cdot x^3}{61} + \dfrac{513 \cdot x^2}{61} - \dfrac{511 \cdot x}{61} + \dfrac{171}{61}$

#14: $F3(x) = \dfrac{121 \cdot x^3}{244} - \dfrac{681 \cdot x^2}{122} + \dfrac{1196 \cdot x}{61} - \dfrac{967}{61}$

#15: $F4(x) = -\dfrac{15 \cdot x^3}{122} + \dfrac{225 \cdot x^2}{122} - \dfrac{616 \cdot x}{61} + \dfrac{1449}{61}$

#16: Zum Zeichnen:

#17: F1(x)·CHI(0, x, 1)

#18: F2(x)·CHI(1, x, 2)

#19: F3(x)·CHI(2, x, 4)

#20: F4(x)·CHI(4, x, 5)