

>  
実習13.2

1/(1-x) の0におけるテイラー多項式 p3, p6, p9 を求め、1/(1-x) と一緒に  
グラフを描いて 1/(1-x) への収束性を調べよ

>  
>  $taylor\left(\frac{1}{(1-x)}, x=0, 4\right)$   
 $1 + x + x^2 + x^3 + O(x^4)$  (1)

>  $p3 := convert(\%, polynomial)$   
 $p3 := x^3 + x^2 + x + 1$  (2)

>  $taylor\left(\frac{1}{(1-x)}, x=0, 7\right)$   
 $1 + x + x^2 + x^3 + x^4 + x^5 + x^6 + O(x^7)$  (3)

>  $p6 := convert(\%, polynomial)$   
 $p6 := x^6 + x^5 + x^4 + x^3 + x^2 + x + 1$  (4)

>  $taylor\left(\frac{1}{(1-x)}, x=0, 10\right)$   
 $1 + x + x^2 + x^3 + x^4 + x^5 + x^6 + x^7 + x^8 + x^9 + O(x^{10})$  (5)

>  $p9 := convert(\%, polynomial)$   
 $p9 := x^9 + x^8 + x^7 + x^6 + x^5 + x^4 + x^3 + x^2 + x + 1$  (6)

>  $plot\left(\left[\frac{1}{(1-x)}, p3, p6, p9\right], x=0..1, legend=["1/(1-x)", "p3", "p6", "p9"]\right)$

