第一周作业

P26 Ex 6

(1) $f(x)=5x^4-6x^3+x^2+4,\ x_0=1$

$$\begin{aligned}f(x)&=5x^4-6x^3+x^2+4\\&=5(x-1+1)^4-6(x-1+1)^3+(x-1+1)^2+4\\&=5(x-1)^4+14(x-1)^3+13(x-1)^2+4(x-1)+4\end{aligned}$$

(2) $f(x)=2x^5+5x^4-x^3+10x-6,\ x_0=-2$

$$\begin{aligned}f(x)&=2x^5+5x^4-x^3+10x-6\\&=2(x+2-2)^5+5(x+2-2)^4-(x+2-2)^3+10(x+2-2)-6\\&=2(x+2)^5-15(x+2)^4+39(x+2)^4-34(x+2)^2-2(x+2)-2\end{aligned}$$