LIMITS OF FUNCTIONS

12.20) Use induction to prove that $lim\_{x\rightarrow a}p\left(x\right)=p(a)$ for every polynomial $p\left(x\right)=c\_{n}x^{n}+c\_{n-1}x^{n-1}+…+c\_{1}x+c\_{o}$ for all $n\in N.$

12.21) Use induction to prove that for every integer $n\geq 2$ and every $n$ functions $f\_{1},f\_{2},…f\_{n}$ such that $lim\_{x\rightarrow a }f\_{i}\left(x\right)=L\_{i}$ for $1\leq i\leq n$.

$$lim\_{x\rightarrow a}\left(f\_{1}\left(x\right)+f\_{2}\left(x\right)+…+f\_{n}\left(x\right)\right)=L\_{1}+L\_{2}+….+L\_{n}$$