習題集 2

(對應 張旭微積分 極限篇主題二：極限的嚴格定義)

1. Apply the ε-δ defintion to show that $\lim_{x\to 1} 5x-1=4$.
2. Apply the ε-δ defintion to show that $\lim_{x\to -5} \frac{-1}{5}x-1=0$.
3. Apply the ε-δ defintion to show that $\lim_{x\to 0}(x+2)(x+1)=2$.
4. Apply the ε-δ defintion to show that $\lim_{x\to -1} x^2+2x=-1$.
5. Apply the ε-δ defintion to show that $\lim_{x\to 4} \frac{1}{x-2}=\frac{1}{2}$
6. Apply the ε-δ defintion to show that $\lim_{x\to 2} \frac{1}{x-1}=1$.
7. Apply the ε-δ defintion to show that $\lim_{x\to 3} \sqrt{x+1}=2$.
8. Apply the ε-δ defintion to show that $\lim_{x\to -\frac{8}{9}} \sqrt{x+1}=\frac{1}{3}$.
9. Apply the ε-δ defintion to show that $\lim_{x\to 1} x^3=1$.
10. Apply the ε-δ defintion to show that $\lim_{x\to 1} \sqrt[3]{x}=1$.