# 1. Ejerccio 1

```cpp
#include <iostream>
#include <cmath>

using namespace std;

int cifras_sig(float xs, float x){
    float v = (abs(x - xs)) / abs(x);
    int i = 0;
    for(; v < 0.5 * pow(10,-1*i); i++)
    {
        cout<<v<<"<"<<0.5 * pow(10,-1*i)<<endl;
    }
    return i - 1;
}

int main(){
    float xs;
    float x;
    cout<<"Ingrese xs->"<<endl;
    cin>>xs;
    cout<<"Ingrese x->"<<endl;
    cin>>x;
    cout<<cifras_sig(xs,x)<<endl;
}
```

# 2. Ejercicio 2

```matlab
function f()
    x= linspace(1-2*10^-8,1+2*10^-8,450);
    y =  x.^ 7 - 7 * x.^ 6 + 21 * x.^ 5 - 35 * x.^ 4 + 35 * x.^ 3 - 21 * x.^ 2 + 7 * x - 1;
    plot(y);
    grid on
end
```

# 3. Ejercicio 3

```matlab
function terminos(n)
    res = [];
    err = [];
    for i = 2:n + 1
        if(i == 2)
            res(i - 1) = 2;
        else
            res(i -1) = (2^(i-1/2)) * sqrt(1- sqrt(1- (4^(1-i)) * (res(i-2)^2)));
        end
        err(i - 1) = abs((pi - res(i-1)) / res(i-1));
    end
    [res' err']
    grid on
    plot(res,err)
end
```