# main.cpp

```cpp
#include <iostream>
#include "math.h"

using namespace std;

int main()
{
    float x1,x2,x3,y1,y2,y3;
    x1 = 25;
    x2 = fatorial(7);
    x3 = potencia(2.5,3);

    y1= funcao(x1);
    y2 = funcao(x2);
    y3 = funcao(x3);

    cout<<"y(3) = ";cout<<y1<<endl;
    cout<<"y(3!) = ";cout<<y2<<endl;
    cout<<"y(2^3) = ";cout<<y3<<endl;


    system("pause");
    return 0;
}
```

# math.cpp

```
float potencia(float b, int exp)
{
    float r = b;
    for(int i=1;i<exp;i++)
    {
        r *=b;
    }
    return r;
}

int fatorial(int a){
    int fatorial = 1;
    for(int r = a; r>0 ; r--){
        fatorial *= r;
    }
    return fatorial;

}

float funcao (float b){
   float x = b;

   float y;

   y = fatorial(5)*potencia(x,3) +
fatorial(4)*potencia(x,2)+fatorial(3)*x + fatorial(2);

  return y;
}
```

# math.h

```
#ifndef MATH_H
#define MATH_H

int fatorial(int );
float potencia(float, int );
float funcao(float);
#endif
```