Appendix:

Program 1

Variation of gluon structure function with x for k = constant.

```
# include <stdio.h>
# include <math.h>
# include <conio.h>
#define pi=3.14
main ()
{
int i, n,k,x;
float x [4] = {.1,.01,.001,.0001};
int Q=1, c=1;
float lem=.323;
float pi, A1,B1,A2,B2,A,B,G,D,E,F;
for (i=0, i<=3,i++)
{
A1=0.5/(pi*pow( x[i], x[i] ));
  A2= (1.8)*(1+x[i]);
  A=A1*A2;
  X=(1/(1-x[i]))*pow(x[i],3);
  Pi=3.14;
  B1=2/ (pi*POW(x[i], x[i]));
  B2= (1+pow (1-x[i],4)*((1/(1-x)+(1/x[i]))-X+11/6;
  B=B1*B2;
  D=(12/25)*pi*(K*A+B);
  E=(Q*Q)/(lem*lem);
  F=C*log (e);
  G=pow (f, d);
  Printf ("\t\t%f"G);
}
 }
```

Program 2.
Variation of gluon structure function with Q^2

```c
# include <stdio.h>
#include <conio.h>
#include <math.h>
def pi=3.14
main ();
{
int i,N,K,X;
float x [4] ={.1,.01,.001,.0001};
int Q=10, C=1;
float lem=.323;
float pi,A1,B1,A2,B2,A,B,G,D,E,F;
for (i=0, i<=3,i++)
{
A1=.5/ (pi*POW(x[i], x[i]));
A2= (1.8)*91+x[i]);
A=A1*A2;
Pi=3.14;
B1=2/ (pi*POW(x[i], x[i]));
B2= (1+POW (1-x[i], 4)*((1/ (1-x) + (1/x[i]))-X+11/6;
B=B1*B2;
D=(12/25)*pi*(K*A+B);
E=(Q*Q)/(lem*lem);
F= (12/25)*pi*(k*A+B) (for initial value of x)
G= (D-F);
H=POW (E, G);
Printf ("\t\t%f"H);
}
}
```

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