

Lösungen für die Aufgaben 3

1.

```
#include <iostream>
using namespace std;
int main(void)
{
    double a,b,max;
    cout<<"\nEingabe a b: ";
    cin>>a>>b;
    if (a>b) max=a;
    else max=b;
    cout<<"\nMaximum: "<<max<<"\n";
    return 0;
}
```

```
#include <iostream>
using namespace std;
int main()
{
    double a,b,c,max;
    cout<<"\nEingabe a b c: ";
    cin>>a>>b>>c;
    if (a>b)
        if (a>c) max=a;
        else max=c;
    else
        if (b>c) max=b;
        else max=c;
    cout<<"\nMaximum: "<<max<<"\n";
    if (a==b && a==c) cout<<"\nAlle Zahlen gleich\n";
    return 0;
}
```

2.

```
#include <iostream>
using namespace std;

int main(void)
{
    double x,y;
    cout<<"\nEingabe von x: ";
    cin>>x;

    if (x<=0) y=1/(1+x*x);
    else
    if (x<=5) y=1-(x*x/10);
    else
        if (x<=30) y=15.0/4.0*x;
        else y=1.0/8.0;
    cout<<"\nf("<<x<<")="<<y<<"\n";
    return 0;
}
```

3.

```
#include <iostream>
using namespace std;

int main(void)
{
```

```
double a,b,erg;
char op;
bool ok;
ok=true;
cout<<"\nEingabe vom Ausdruck: ";
cin>>a>>op>>b;

switch (op)
{
    case '+':erg=a+b; break;
    case '-':erg=a-b; break;
    case '*':erg=a*b; break;
    case '/':
    case ':':    if (b!=0) erg=a/b;
                  else {ok=false;cout<<"Division durch 0\n";}break;
    default:ok=false; cout<<"Unzulaessiges Zeichen\n";
}
if (ok) cout<<a<<op<<b<<"="<<erg;
return 0;
```

}
4.

```
#include <iostream>
using namespace std;

int main(void)
{
    double x,max;
    int i,n;
    cout<<"Anzahl der Zahlen: ";
    cin>>n;
    cout<<"1. Zahl: ";
    cin>>x;
    max=x;
    for (i=2;i<=n;i++)
    {cout<<i<<" . Zahl: ";
      cin>>x;
      if (x>max) max=x;
    }
    cout<<"Maximum= "<<max<<"\n";
    return 0;
}
```

5.

```
#include <iostream>
#include <cmath>
using namespace std;

int main()
{
    double x,epsi,g,e;
    int i;
    cout<<"x= "; cin>>x;
    cout<<"Genauigkeit= "; cin>>epsi;
    e=0; g=1; i=1;
    while (fabs(g)>=epsi)//do
    { e=e+g;
      g=g*x/i;
      i++;
    }//while (fabs (g) >=epsi);
```

```
    cout<<"Ergebnis="<<e<<"\n";
    return 0;
}

6.
#include <iostream>
#include <cstdlib>
#include <ctime>

int main(void)
{
    int gewinn=0,
        wurf, i;

    std::srand((unsigned)time(NULL));
    for (i=0;i<1000;i++)
    {
        gewinn--;
        wurf=std::rand()%6+1+std::rand()%6+1+std::rand()%6+1;
        switch (wurf)
        {
        case 15: gewinn+=2;break;
        case 16: gewinn+=5;break;
        case 17: gewinn+=10;break;
        case 18: gewinn+=100;
        }
    }
    std::cout<<"Gewinn="<<gewinn;
    return 0;
}
```