Lösungen 2

1.
```
#include <iostream>

int main() {
  std::cout << "Hello World!\n";
}
```

2.
```
#include <iostream>
using namespace std;

int main() {
  int  a,b,c;
       cin>>a>>b;
       c=a+b;
       cout<<a<<"+"<<b<<"="<<c<<endl;
       c=a-b;
       cout<<a<<"-"<<b<<"="<<c<<endl;
       return 0;
}
```

3.
```
#include <iostream>
#include <math.h>
using namespace std;

int main() {
       double r,s,v;
       cout<<"\nEingabe: ";
       cin>>r;
       s=4*M_PI*r*r;
       cout<<"\nKugeloberflaeche:"<<s;
       v=4./3*M_PI*r*r*r;
       cout<<"\nKugelvolumen:"<<v<<endl;
       return 0;
}
```
4.
```
#include <iostream>
using namespace std;

int main() {
       double geschw = 299792458;
       cout<<geschw/1000<<" km/s"<<endl;
       cout<<geschw*100<<" m/s"<<endl;
       return 0;
}
```

5.
```
#include <iostream>
#include <iomanip>

/* Waehrungsumrechnung von Euro zu Yuan*/
int main(void)
{
       double  kurs,yuan,euro;
       int    schrittweite;
```

```
        kurs = 7.446;
        std::cout << "Umtauschkurs: 1 EUR =" <<kurs<< " CNY\n";

        std::cout << "\nAnfangswert Euro: ";
        std::cin >> euro;
        std::cout << "Schrittweite: ";
        std::cin >> schrittweite;

  //erste berechnung
        yuan=euro * kurs;
    std::cout<< "EUR " <<std::fixed <<std::setprecision(2) << euro << "=" << yuan<< " CNY"
  << std::endl;
        euro = euro + schrittweite;
  //zweite berechnung
        yuan=euro * kurs;
        std::cout<< "EUR " << euro << "=" << yuan<< " CNY" << std::endl;
        euro = euro + schrittweite;
  //dritte berechnung
        yuan = euro * kurs;
        std::cout<< "EUR " << euro << "=" << yuan<< " CNY" << std::endl;
        return 0;
  }

  6.
  #include <iostream>
  int main(void)
  {
        int a=1, b=2, c=3;
        double y=4.0,r;

        // hier den Ausdruck einfuegen
        //r=(a+b-2*c)/y+c;
         //r=(a*b+2*c)/y*c;
        r=(a+b)/(c-y)-double(a)/b;       // Beachte ganzzahlige Div.

        std::cout<<"\nErgebnis: "<<r;
        std::cout<<"\n";

        return 0;
  }

  7.
  #include <iostream>
  int main(void)
  {
        double x, y, x1=3.5, x2=7, y1=2, y2=5.5;
        int erg;

        printf("\nEingabe x y: ");
        std::cin>>x>>y;

        if (x1<=x && x<=x2 || y1<=y && y<=y2) std::cout<<"Bedingung erfüllt\n";
        else std::cout<<"Bedingung nicht erfüllt\n";
        //x1<=x && x<=x2
        //x1<=x && x<=x2 && y1<=y && y<=y2
        //x1<=x && x<=x2 || y1<=y && y<=y2
        return 0;
  }
```