

Computer Programming Home Tasks

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Section: B

```
#include <iostream>
```

```
#include <cmath>
```

```
using namespace std;
```

```
int main () {
```

```
    //Factorial of 6
```

```
    int num = 6;
```

```
    cout<<"Factorial of 6 is: ";
```

```
    cout<<num*(num-1)*(num-2)*(num-3)*(num-4)*(num-5)<<endl;
```

```
    //Distance between two points
```

```
    float x1, x2, y1, y2;
```

```
    cout<<"x coordinate of point 1: ";
```

```
    cin>>x1;
```

```
    cout<<"y coordinate of point 1: ";
```

```
    cin>>y1;
```

```
    cout<<"x coordinate of point 2: ";
```

```
    cin>>x2;
```

```
    cout<<"y coordinate of point 2: ";
```

```
    cin>>y2;
```

```

float x = x2-x1;
float y = y2-y1;
//Distance formula given in task is incorrect, it should include
//square root of whole formula
cout<<"Distance: "<<pow((x*x)+(y*y),0.5)<<endl;

//Convert into meters and kilometers
float cm, m, km;
cout<<"Length in centimeters(cm): ";
cin>>cm;
m = cm/100;
km = m/1000;
cout<<"Length in meters: "<<m<<endl;
cout<<"Length in kilometers: "<<km<<endl;

//Calculate Polynomial  $a^2 + 2ab + b^2$ 
float a, b;
cout<<"Value of a: ";
cin>>a;
cout<<"Value of b: ";
cin>>b;
cout<<"Result of the Polynomial: "<<(a*a)+(2*a*b)+(b*b)<<endl;
return 0;
}

```