1.

```cpp
#include <iostream>
#include <conio.h>
#include <iomanip>

using namespace std;

main()
{
    char degree = 248;
    float firstTemp = -5.4, secondTemp = 124.67, thirdTemp = 305.15; // Celius,
Farenheight, Kelvin
    float firstFarenheightConversion, firstKelvinConversion,
firstRankineConversion;

    firstFarenheightConversion = ((1.8) * firstTemp) + 32;
    firstKelvinConversion = (firstTemp) + 273.15;
    firstRankineConversion = firstFarenheightConversion + 459.67;

    cout << setprecision(2) << fixed << "First Constant Value = " << firstTemp
<< degree << "C\n"
        << degree << "F = " << firstFarenheightConversion << degree << "F\n"
        << degree << "K = " << firstKelvinConversion << degree << "K\n"
        << degree << "R = " << firstRankineConversion << degree << "R\n";

    float secondFarenheightConversion, secondKelvinConversion,
secondRankineConversion;

    secondFarenheightConversion = 5 * (secondTemp - 32) / 9;
    secondKelvinConversion = secondFarenheightConversion + 273.15;
    secondRankineConversion = secondTemp + 459.67;

    cout << "\nSecond Constant Value = " << secondTemp << degree << "F\n"
        << degree << "F = " << secondFarenheightConversion << degree << "C\n"
        << degree << "K = " << secondKelvinConversion << degree << "K\n"
        << degree << "R = " << secondRankineConversion << degree << "R\n";

    float thirdFarenheightConversion, thirdCelciusConversion,
thirdKelvinConversion, thirdRankineConversion;

    thirdFarenheightConversion = (thirdTemp - 491.67) * 5 / 9;
    thirdCelciusConversion = thirdFarenheightConversion;
    thirdKelvinConversion = ((1.8) * thirdFarenheightConversion) + 32;
    thirdRankineConversion = thirdTemp * 0.5555555556;
```

```cpp
        cout << "\nThird Constant Value = " << thirdTemp << degree << "R\n"
             << degree << "C = " << thirdFarenheightConversion << degree << "C\n"
             << degree << "F = " << thirdKelvinConversion << degree << "F\n"
             << degree << "R = " << thirdRankineConversion << degree << "R\n";

        getch();
}
```

Output:

```
First Constant Value = -5.40°C
°F = 22.28°F
°K = 267.75°K
°R = 481.95°R

Second Constant Value = 124.67°F
°F = 51.48°C
°K = 324.63°K
°R = 584.34°R

Third Constant Value = 305.15°R
°C = -103.62°C
°F = -154.52°F
°R = 169.53°R
```

2.

```cpp
#include <iostream>
#include <conio.h>
#include <cmath>

using namespace std;

main()
{
    cout << "N\t2^n\n\n"
         << "0\t" << pow(2, 0) << "\n"
         << "1\t" << pow(2, 1) << "\n"
         << "2\t" << pow(2, 2) << "\n"
         << "3\t" << pow(2, 3) << "\n"
         << "4\t" << pow(2, 4) << "\n"
         << "5\t" << pow(2, 5) << "\n"
         << "6\t" << pow(2, 6) << "\n"
         << "7\t" << pow(2, 7) << "\n"
```

```cpp
            << "8\t" << pow(2, 8) << "\n";
    getch();
}
```

Output:

```
N           2^n
0           1
1           2
2           4
3           8
4           16
5           32
6           64
7           128
8           256
```

```cpp
#include <iostream>
#include <conio.h>
#include <cmath>

using namespace std;

main()
{
    float a, T, m, g; // a = initial acceleration T - thrust in Newton m - mass
in kg g - acceleration caused by gravity in m/s^2

    T = 6e6;
    g = 9.81;
    m = 5e4;

    a = (T - (m * g)) / m;

    cout << "The initial acceleration, a, of a rocket fired from earth , with an
initial thrust, T, is given by this formula:\n a = (T - mg) / m\n where:\n a =
initial acceleration \n T = thrust in Newton\n m = mass in kg\n g = acceleration
caused by gravity in m/s^2"
```

```cpp
        << "\nWrite and run program that will determine the initial acceleration
of a rocket having a mass of 5X10^4 kg and an initial thrust of 6X10^5 Newtons.
The Value of g is 9.81m/s^2.\n\n";
    cout << "The initial acceleration is " << a << "m/s^2.";
    getch();
}
```

```
The initial acceleration, a, of a rocket fired from earth , with an initial thrust, T, is given by this formula:
 a = (T - mg) / m
 where:
 a = initial acceleration
 T = thrust in Newton
 m = mass in kg
 g = acceleration caused by gravity in m/s^2
Write and run program that will determine the initial acceleration of a rocket having a mass of 5X10^4 kg and an initial thrust of 6X10^5
 Newtons. The Value of g is 9.81m/s^2.

The initial acceleration is 110.19m/s^2.
```