

Lab 3

1. Run the following program. How can you tell that the displayed output does not accurately express the value that is stored for the variable x ?

```
#include <iostream>
#include <cmath>
using namespace std;
void main()
{
    cout.precision(20);
    double x = pow(2.0,-30);
    cout<<x<<endl;
}
```

2. Get Excel to sketch the graph of a straight line given the slope of the line and the co-ordinates of a point on the line. The value of the slope and the co-ordinates of the point on the line should be determined by values entered into three of the spreadsheet cells.
3. Get Excel to sketch a graph of the function $y = x^3 - 3x^2 + 1$ over the interval $[a, b]$ using 100 points. The values of a and b should be determined by values stored in two of the spreadsheet cells.
By suitably modifying the values of a and b use this graph to estimate solutions for the equation $x^3 - 3x^2 + 1 = 0$.