**C++**

**Qualification Test #3**

1. **Write a Function To Calculate the power of n with base 2.**

 int Power(int Pow)

        {

            int Base = 2;

            if (Pow == 1)

            {

                return 1;

            }

            return Base \* Power(Pow - 1);

        }

1. **Write a function distance that calculates the distance between two points (x1, y1) and (x2, y2). All numbers and return values are of type**

**double.**

**#Hint : use**

**# include <cmath>**

**# include <iomanip>**

**distance between two points law : (x2-x1 )2 + (y2- y1)2**

**# include <iostream>**

**# include <cmath>**

**# include <iomanip>**

**using namespace std;**

**double distance ( double, double, double, double );**

**int main ( )**

**{**

double x1, x2, y1, y2, d;

cout << "Enter the first point: ";

cin >> x1 >> y1;

cout << "Enter the second point: ";

cin >> x2 >> y2;

d = **distance** (x1, y1, x2, y2 );

cout << setprecision(2) << fixed;

cout << "The distance between the two points is: " << d << endl;

**return 0;**

**}**

**double distance ( double x1, double y1, double x2, double y2 )**

**{**

**return sqrt ( pow ( x2 - x1, 2 ) + pow ( y2 - y1, 2 ) );**

**}**

1. **Write a function that gets a positive integer and returns the average of the even digits it contains.**

**If the integer is 284, the function will return 4.66667**

**If the integer is 1236, the function will return 4**

**double digits (int x)**

**{**

int i, d, count = 0, sum = 0;

while (x != 0)

{

d = x % 10;

if (d % 2 == 0)

{

sum += d;

count ++;

}

x /= 10;

}

if (count == 0)

**return 0;**

**return sum \* 1.0 / count;**

**}**