CLASSWORK APPLICATIONS FOR C++ OPERATORS & INTRINSIC FUNCTIONS

Q1.

```cpp
1    #include <iostream>
2    #include <cmath>
3    using namespace std;
4    int main() {
5        double x,fx;
6        cout<<"input x\n";
7        cin>>x;
8        fx=((x/3)-pow(x,3))/(x-double(3.0/2));
9        cout<<"Fractional number (3/2) check "
10           <<double(3.0/2)<<endl;
11       cout<<"fx ="<<fx <<endl;
12       system ("pause");
13   }
```

Q2.

```cpp
z=(a+b)/(c+d);
z=a+b/(c+d);
z=(a+b)/c+d;
z=(a+b)/(c+d/(e+f));
```

Q3.

```cpp
#include <iostream>
#include <cmath>
using namespace std;

int main() {
    cout<<"cos(A) : "<<cos(M_PI*0/180)<<" sin(A) : "<<sin(M_PI*0/180)<<endl;
    cout<<"cos(B) : "<<cos(M_PI*90/180)<<" sin(B) : "<<sin(M_PI*90/180)<<endl;
    cout<<"cos(C) : "<<cos(M_PI*180/180)<<" sin(C) : "<<sin(M_PI*180/180)<<endl;
    cout<<"cos(D) : "<<cos(M_PI*270/180)<<" sin(D) : "<<sin(M_PI*270/180)<<endl;
}
```

Q4.

```cpp
#include <iostream>
#include <cmath>
using namespace std;

int main() {
    double a,b;
    cout<<"Please, enter the lengths of two side of triangle: "<<endl;
    cin>>a>>b;
    cout<<"Area of the triangle is "<<a*b/2<<endl;
    cout<<"Hypotenuse of the triangle is "<<sqrt(a*a+b*b)<<endl;
}
```

Q5. Find the result of the following arithmetic operation;

```
double( floor(5.2) / ceil(-2.7) ) + 5%2
```

```
-1.5
```

Q6. Find the result of following operation.

```
abs(-2.3)/2+1.3*sqrt(4.)/double(5/2)
```

`2.45`

Q7. Find the result of each line int the following program section:

```
double   x=10.0, y=0.01, z=0.5 ;
int i=10, j=25, k=3 ;
cout << ceil(j/x)+floor(x+j/2) ;
cout << z * x / 10 + k ;
cout << z * k + z * j + z * i ;
cout << i * y - k / x + j ;
```

`25`
`3.5`
`19`
`24.8`

Q8.

```cpp
#include <iostream>
#include <cmath>
using namespace std;

int main() {
    double f;
    f=exp(M_PI)+log((2/3.)*exp(1.0));
    cout<<f<<endl; }
```

Q9. Write a program to obtain the following table for your friends:

Name	Surname	City	Phone
Ali	Can	İstanbul	0 5?? ???????

```cpp
#include<iostream>
#include<string>
using namespace std;
int main(){
string name1,sname1,city1,phone1,name2,sname2,city2,phone2,name3,sname3,city3,phone3;
cout<<"Enter Name, Surname, City and Phone of 3 friends:\n";
cin>>name1>>sname1>>city1>>phone1;
cin>>name2>>sname2>>city2>>phone2;
cin>>name3>>sname3>>city3>>phone3;
cout<<" Name    Surname   City     Phone \n";
cout<<"--------------------------------- \n";
cout<<name1<<"   "<<sname1<<"   "<<city1<<"   "<<phone1<<endl;
cout<<name2<<"   "<<sname2<<"   "<<city2<<"   "<<phone2<<endl;
cout<<name3<<"   "<<sname3<<"   "<<city3<<"   "<<phone3<<endl;}

}
```