

## CLASSWORK APPLICATIONS FOR C++ OPERATORS & INTRINSIC FUNCTIONS

Q1. Correct the program given below that calculates the function for arbitrary values of x.

$$f(x) = \frac{\frac{x}{3} - x^3}{x - 3/2}$$

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

int main() {
    double x, fx;
    cout<<"input x\n";
    cin>>x;
    fx=x/3-pow(x,3)/(x-3/2);
    cout<<"fx ="<<fx
    system ("pause");
}
```

### Sample Output

```
input x
2
fx =-14.6667
```

Q2. Write C++ statements to evaluate the following algebraic formulae:

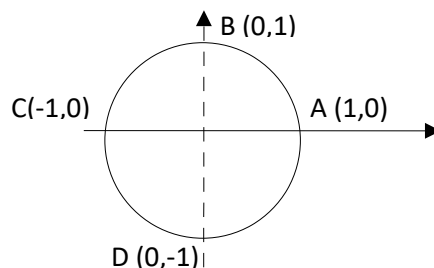
a)  $z = \frac{a+b}{c+d}$

b)  $z = a + \frac{b}{c+d}$

c)  $z = \frac{a+b}{c} + d$

d)  $z = \frac{a+b}{c + \frac{d}{e+f}}$

Q3. Write a program to find the Cosines and Sines of angles at points A, B, C and D at the unit circle.



Q4. Write a program to read the lengths of the two sides of a right angle triangle and calculate and display the area of the triangle (one-half the product of sides) and the length of the hypotenuse (square root of the sum of the squares of the sides).

Q5. Find the result of the following arithmetic operation;

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

Q6. Find the result of following operation.

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

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 ;
```

Q8. Write a program to calculate the following function:

$$f = e^{\pi} + \ln\left(\frac{2}{3} * e\right)$$

Where e is well known constant.

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

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