CC103 – Predefined Functions ECQ Activity 3 and 4

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Example 1

Create a program that display the sample output shown in the figure below using predefined functions.

```
Line 12: Is T a lowercase letter? 0
Line 13: Uppercase a is A
Line 14: 4.5 to the power 6.0 = 8303.77
Line 15: Enter two decimal numbers: 24.7 3.8

Line 18: 24.70 to the power of 3.80 = 195996.55
Line 19: 5.0 to the power of 4 = 625.00
Line 21: Absolute value of double -7.50 = 7.50
Line 23: Absolute value of -32 = 32
Line 24: Square root of 28.00 = 5.29
Line 25: Round up value of 7.50 = 8.00
Line 26: Round down value of 7.50 = 7.00
Press any key to continue . . .
```

Example 2

Create a program using predefined functions that calculate the value of x given the quadratic equation:

Formula:

$$x = \frac{-b + \sqrt{b^2 - 4ac}}{2a}$$

Sample Output

```
------ Quadratic Equation ------

Input a value for a: 1

Input a value for b: 10

Input a value for c: 1

The value in quadratic equation is: -0.10
Press any key to continue . . .
```

Example 3

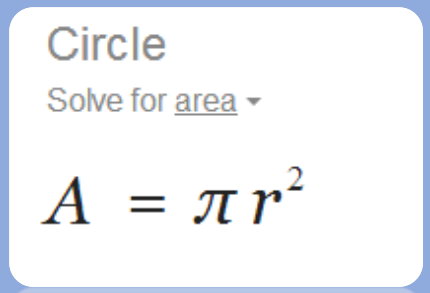
Create a program that display the sample output shown in the figure using predefined functions.

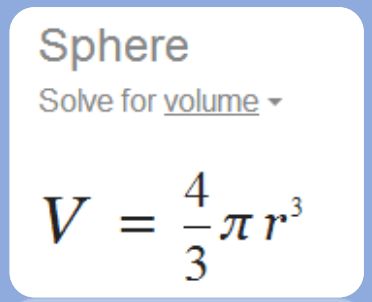
```
--- Math Functions ---
1. 128
2. 16.00 1.00
3. 23.00 23.00
4. 4.00
5. 0.40 16.00
6. -0.06 0.53
7. 0.00 -0.72
8. 0.00 -4.62
9. -3.45 -4.62
10. 0
11. 1 0
12. 97
13. 11.16
14. 58218.75
15. 6468.75
16. 6468.75
17. 0.09
18. K
19. #
20. t
21. m
22. 1
23. 0
24. &
Press any key to continue . . .
```

FileName: ECQ Activity 3_LastName

Create a program using predefined functions that calculate the area of a circle and volume of a sphere based on a radius.

Formula:





Sample Output

```
------ Area of a Circle Based on Radius ------

Input the radius to get the Area of the Circle: 14.45

The Area of the Cirle is: 655.97


------ Volume of a Sphere Based on Radius ------

Input the radius to get the Volume of the Sphere: 36.10

The Volume of the Sphere is: 147799.34

--------------------------------
Process exited after 18.42 seconds with return value 0
Press any key to continue . . .
```

FileName: ECQ Activity 4_LastName

Create a program using predefined functions that calculate the volume of a right circular cone and solve the value for hypotenuse of a right triangle.

Formula:

$$V = 1/3\pi r^2 h$$

$$c = \sqrt{a^2 + b^2}$$

Sample Output

```
------ Volume of a Right Circular Cone ------

Input the Radius: 67

Input the Height: 14.34

The Volume of the Circlular Cone is: 67410.63


------ Hypotenuse of a Right Triangle ------

Input the first value: 17

Input the second value: 23.90


The Volume of the Sphere is: 29.33
Press any key to continue . . .
```