2016 Fall CIS200 – Lab 7

Due date: November 9, 2016

Student Name: Section Number:

**Make a base class for a Polygon**

The private members

- numOfSides : int

- sides[ ]: int // listed in clockwise order , MAX sides is 100

The attributes

+ Polygon(numSides:int) // default is 0

+ set(sideNum: int, value:int) : void// ensures no negative side values

+ get (sideNum:int):int // returns the value of sides[sideNum]

+ perimeter(): int virtual// returns the perimeter of the polygon

+ area(): double virtual //returns the area of the polygon

+ volume(): double virtual //returns 0

**Make a class for Rectangle derived from Polygon**

The attributes

+ Rectangle()// class Polygon(4);

+ area() // appropriately

+ perimeter()() // appropriately

**Make a class for Square derived from Rectangle**

The attributes

+ Square()// appropriately

+ area() // appropriately

+ perimeter() // appropriately

**Make a class for RightTri derived from Polygon**

The attributes

+ RightTri()// class Polygon(3);

//. Assumes the order side, side, hypotenuse

+ area() // appropriately

+ perimeter() // appropriately

**Make a class for RectSolid derived from Rectangle**

The members

-height: int

The attributes

**+** volume ():double // returns the volume

+ getHeight(): int // returns the height

+ setHeight(h:int): void // sets the height to a non-negative value

+ RectSolid(h:int)// initializes a rectangular solid

**In your main**

Make a an array of pointers to Polygon and add an instance

Of a rectangle with sides of length 4 and 10

A square with sides of length 5

A right triangle with sides 3, 4 and 5

A rectangular solid with sides of length 6 and 3 and height 5.

Use the array to have each shape print out its area perimeter, as well

As the rectangular solid print out its volume.

Provide a Microsoft word that contains the following items:

1. Your name
2. Source code (identify which compiler you used)
3. Executable module instructions (if any)
4. Test data and expected results
5. Running log/output in the format of screenshots

Submit the word document to Canvas. The file name should be yourName\_lab7.doc.