CRT - Chapter 7

1. Which members of the circle class are encapsulated?
   Private methods are encapsulated because they cannot be accessed from outside the class. Helper methods are encapsulated, which are called within a class by other methods.

2. What name must the constructor of a class always have?
   A constructor class always has the same name as the class

3. Explain the difference between the public and private access modifiers.
   Public access modifies can be accessed from outside the class or inside the class, or outside its package.

   Private access modifiers can only be accessed within the class

4. Consider the following code. Is the last statement valid or invalid? Explain
   Circle dot = new Circle(2);
   dot.radius = 5;
   If the radius was declared as private, it would lead to the last statement being invalid, because the value of the radius cannot be changed to 5

5. Use the following code to answer the questions below:

```
public class Roo {
private int x;
public Roo {
        x=1;
}
public void setX(int z) {
        x=z;
}
public int getX() {
        Return(x);
}
public int calculate() {
        x=x*factor();
        return(x);
}
private int factor() {
        return(0.12);
}
}
```

a) What is the name of the class
The class's name is Roo
b) What is the name of the data member?
The data members name is x
c) List the accessor method
The accessor method is named public int getX()
d) List the modifier method
The modifier method is public void setX(int Z)
e) List the helper method
The helper method is private int factor()
f) What is the name of the constructor
The constructor name is public Roo
g) How many methods are there
There are 4 methods, they are: getX(), setX(int Z), calculate(), factor()

6. What is the difference between a class and an object?
A class is a data type that defines variables for an objects behavior.

An object stores data and can perform actions.

9. Use the following class data member definitions to answer the questions below:

```
public class Moo {
        private double y;
        private static int x;
        private static final z;
```

a) Which data member is a constant
The constant data member is z

b) Which data members are variables?
Y and x are variables

c) Which data members are instance members
Y, because its not static

d) Which data members are class members
X and z because theyre declared as static variables