CRT chapter 7

1. Which members of the Circle class are encapsulated?

Radius, PI

1. What name must the constructor of a class have?

The name of the constructor must be the same as the class

2. Explain the difference between the private and public access modifiers.

public modifier the field is accessible from all classes. private modifier the field is accessible only within its own class.

3. Consider the following code. Is the last statement valid or invalid? Explain.

```
Circle dot = new Circle(2);
dot.radius = 5;
```

The last statement `dot.radius = 5;` is valid if `radius` is a public or protected member of the `Circle` class.

4. Use the following class 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 name of the class is `Roo`.

b) What is the name of the data member?
The name of the data member is `x`.

c) List the accessor method.
The accessor method is `getX()`.

d) List the modifier method.
The modifier method is `setX(int z)`.

e) List the helper method.
The helper method is `factor()`.

f) What is the name of the constructor?
The constructor is `Roo()`.

g) How many method members are there?
There are four method members in total

5. What is the difference between a class and an object?

a class is a template for creating objects with the same attributes and behaviors.
While objects are visible instances that are here to the structure and behavior defined by the class.

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 is `static final`.

b) Which data members are variables?
`double y`
`int x`

c) Which data member(s) are instance members?
double y

d) Which data member(s) are class members?
`int x`
`z`