1. In the Circle class the encapsulated members are private static double PI and private double radius
Since both of these are declared as private they are considered encapsulated within the Circle class.

2. The constructor of a class must have the same name as the class itself. Ex. class = Food constructor = Food

3. The difference between the private and public modifiers is their accessibility to other classes. Public: other classes can access this information and use it in their code. Private: other classes cannot access this information, it is specific and only usable within the class it is declared/made in.

4. This code is not valid, because the radius variable was declared as private (only accessible in the Circle class), so you cannot call this variable directly with the object. (to make this work you would need to call a public method that the radius value is in with the object, this would work because the method is public. However, you must consider other variables when doing this to Ex. you would need to return a value of radius in the method, this among other things)

5.

a)
The name of the class is Roo

b)
The name of the data member is "x"

c)
The name of the access method is getX()

d)
The name of the modifier method is setx(int z)

e)
The name of the helper method is factor()

f)
The name of the constructor is Roo (same as class)

g) The number of method members is 4 this includes setx, getx, calculate, and factor

6.
A class is an actual file/program of code that's written out in a java file, whereas an object is what you use to access information from a class outside of the class you're currently in (it is used to access the information in a different class). For instance if you have a LunchOrder class and a Food class, and you want information from the Food class to be used in the LunchOrder class; you would create an object to get that information from the Food class for LunchOrder.

9.

a)
The data member "z" is a constant (it's declared as final)

b)
The data members "x" and "y" are both variables

c)
The data member "y" is an instance member because it isn't static.

d)
The data members "x" and "z" are class members because they are static.