Critical Thinking File Inheritance and Polymorphism:

1.
An is-a relationship is when a class is derived from existing classes where a has-a relationship is when one class uses another class within itself.

2.
Both will be available to an object of the derived class.

3.
The key difference between the implementation of an abstract class and overriding a method is that you need to implement the abstract method when inheriting from an abstract class, but you are not required to override a class. Another difference is that inheriting an abstract class into a subclass, it requires you to create a variable because the abstract method has one in its parameters.

4.
One of the differences between an abstract class and an interface is that an interface can't be inherited while an abstract class can be. Another difference is that you can implement as many interfaces that you want but you can only inherit one class. Interfaces also make every method public and abstract.

6.
a)
doThat() is a static and abstract method.

b)
Wo is an interface.

c)
Because it implements Wo and doThat() is an abstract method in Wo which Roo needs to implement.

d)
doThis(), doNow(), and doThat()

e)
It overrides the method in Bo, meaning that if you call that method it will return the value in Roo.

f)
It calls the constructor in Bo to set x = 1.

g)
No, the doThis() method in Bo cannot be called from a Roo object.

h)
Yes a method from Roo can call the doThis() method from Bo by using super.doThis()