Polymorphism Worksheet -Inheritance + Overriden Methods

1. Use the following class definitions for this question.

```
public class Animal
{
    // code here
    public void greet(Animal a)
    {
        System.out.println("Sniffff");
    }
}


public class Dog extends Animal
{
    // code here
    public void greet(Animal a)
    {
        System.out.println("Grrrrr");
    }
    public void speak() { … }
}


public class Cat extends Animal
{
    // code here
    public void greet(Dog c)
    {
        System.out.println("Purrrrr");
    }

    public void greet(Animal c)
    {
        System.out.println("meow.");
    }
}
```

Given:

```
Cat fluffy = new Cat();
Animal spot = new Dog();
```

For each of the following lines of code, show what would be printed to the screen when run, or, if the code won't compile, write WC:

```
a. fluffy.greet(spot);
```

```
b. spot.greet(fluffy);
```

```
c. fluffy.greet(fluffy);
```

2. Use the following class definitions for this question.

```java
public class Animal
{
    // code here
    public void greet(Animal a)
    {
        System.out.println("Sniffff");
    }


}

public class Mammal extends Animal
{
    // code here

}

public class Cat extends Mammal
{
    // code here

    public void greet(Cat c)
    {
        System.out.println("Purrrrr");
    }
    public void greet(Mammal m)
    {
        System.out.println("hi there");
    }
}
```

Given:

```java
Mammal rex = new Cat();
Cat fuzzy = new Cat();
```

a. What does `rex.greet(fuzzy)` print to the screen?

b. What does `fuzzy.greet(rex)` print to the screen?