

Question #3

For each example of code, respond whether or not it will compile. If it compiles, please respond whether or not it will run without errors. If it runs without errors and has a return value, please write the return value.

```
interface X {
    int method();
}
class Y implements X {
    int method() {
        return 0;
    }
    private double method(String arg) {
        return 12.20;
    }
}
class Z extends Y {
    double method(String arg) {
        return 3.14;
    }
}
public class testXYZ {
    public static void main(String[] args) {
```

// Code – Each group of lines is independent	Compiles?	Runs without errors?	Return value?
(new Y()).method("hi"); This method is private for Y	NO		
(new Z()).method(); Works	YES	YES	0
((Z) (new Y())).method("yo"); You promise it is a Z, but it isn't so it has a runtime error	YES	NO	
X x1 = new Z(); Y y1 = (Z) x1; Z is a subclass of Y so you can cast to a Z and set equal to a Y reference.	YES	YES	
X[] xarr = {new Y(), new X()}; You can't make a new X() because it is an interface.	NO		
Y[] yarr = {new Y(), new Z()}; Works -Z is a subclass of Y so you can put it in a Y array	YES	YES	
((Y) (new Z())).method("hey"); Y's do not have a public method that takes a string.	NO		
X x2 = new Z(); Z z2 = (Y) x2; z2.method(); you can't cast to a Y and then set it to a z. You must cast to a Z.	NO		
X x3 = new Z(); x3.method("hello"); X doesn't have a method that takes in a String.	NO		
}			