

**CS 1316 - Exam 1 - Spring 2010****Your Grading TA:** \_\_\_\_\_ **Your Section :** \_\_\_\_\_

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- Do NOT communicate with anyone other than a proctor for ANY reason in ANY language in ANY manner.
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**Signature:** \_\_\_\_\_

Problem	Points Earned	Points Possible	Grader Initials
1. Vocabulary		12	
2. Short Answer		7	
3. Turtle Graphics		8	
4. Code Understanding		8	
5. Multiple Choice		2	
6. Code Tracing		4	
7. Code Writing		14	
TOTAL:		55	

**Exam Percentage:** \_\_\_\_\_ / 55 = \_\_\_\_\_ %

**1. Vocabulary (12 points)**

For each of the following words, write a 1-2 sentence definition of the word as used in this class. Your definition should be concise and to the point, while demonstrating that you know what the term means.

a) block -

b) class -

c) private -

d) type declaration -

**2. Short Answers ( 7 points)**

For each of the following questions, write a 1-4 sentence answer:

a. What is the difference between a constructor and a method?

b. What is the point of declaring a field private and then declaring a public mutator (set method) that allows the public to change it? Why not just make the field public?

c. What would the following math operations result in if run in the interactions pane? To signify that an answer is a Double include at least one decimal place.

> 1/2                      *Answer:*

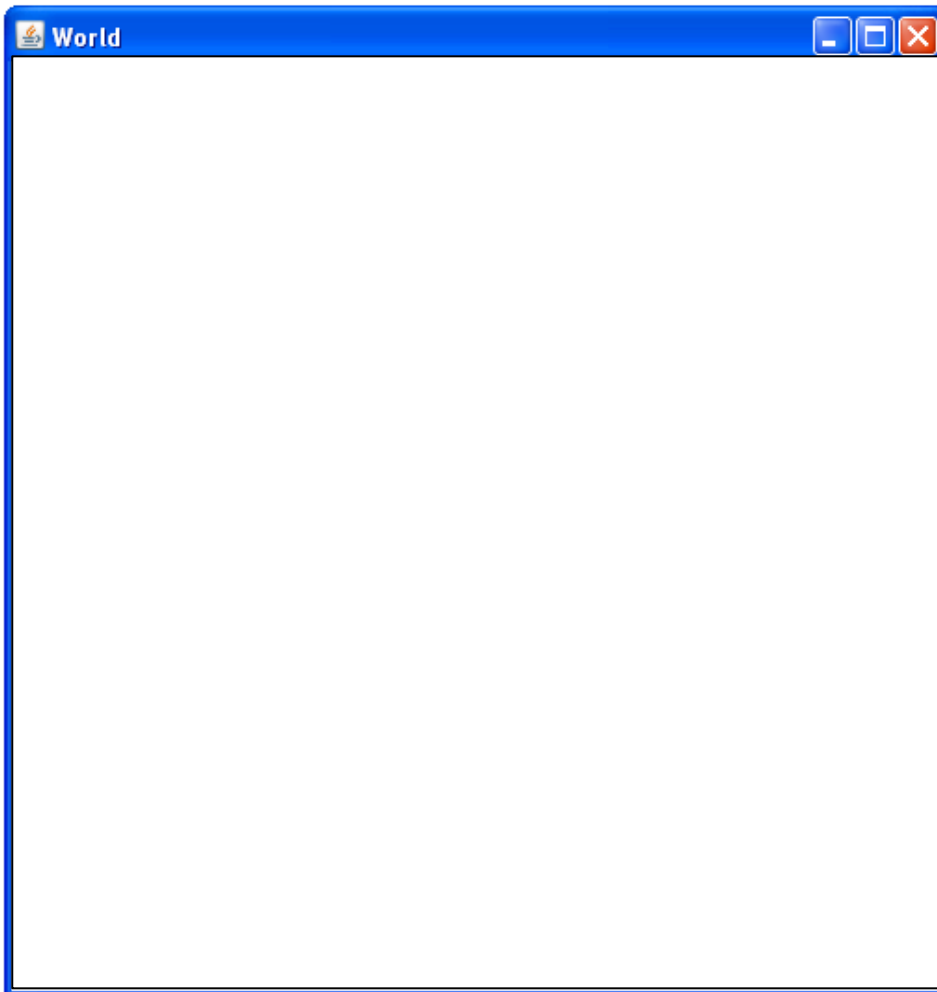
> 10.0/5                      *Answer:*

> (int) 2.5 \* 2                      *Answer:*

**3. Turtle Graphics ( 8 Points)**

Draw the image that results when this code is executed in the window below.

```
public class TurtleDrawing{  
    public static void main(String[]args){  
        World w = new World (500,500);  
        Turtle bert = new Turtle (w);  
        bert.turn(45);  
        for(int i = 1; i <=5; i++){  
            bert.forward(200);  
            bert.turn(144);  
        }  
    }  
}
```



**4. Code Understanding (8 Points)**

```
public class Dog{
    public int size;
    public static String species = "Canine";

    public void bark(){
        if (size > 5){
            System.out.println("Bark!");
        }
        else {
            System.out.println("Yap yap yap");
        }
    }

    public static void growl(){
        System.out.println("Grrrrr");
    }
}
```

The above class Dog has been compiled. Assume a new Dog object has been instantiated as:

```
Dog clifford = new Dog();
clifford.size = 15;
```

-Circle the Java statement(s) below which would cause an error.

For each error, specify why the error would occur.

-For each statement that would NOT cause an error, write what would be printed!

```
System.out.println(clifford.species);
```

```
System.out.println(Dog.species);
```

```
clifford.bark();
```

```
Dog.bark();
```

```
clifford.growl();
```

```
Dog.growl();
```

**5. Multiple Choice (2 points)**

A subclass in Java may extend at most how many superclasses? (circle one)

- a.) None
- b.) One
- c.) Two
- d.) As many as the coder wishes, provided the syntax is correct.

**6. Code Tracing (4 points)**

What will be the output if the following code is executed?

```
int x = 4; int y = 2;

if( x < 7 || y < 2){
    System.out.println("Apple");
}
if(x > 3 && y > 2){
    System.out.println("Banana");
}
else if(x > 2 || y > 0){
    System.out.println("Cherry");
}
else if(x == 4){
    System.out.println("Date");
}
else{
    System.out.println("Finished");
}
```

**7. Code Writing (14 points)**

Write a class called `CombineStrings` that contains a static method called `combine()` that accepts two Strings as parameters and returns a String that is the combination of the two input Strings *separated by a space*. Write a main method that calls the static method `combine()` and passes the Strings “hello” and “world” into the method. Print the resulting String from the `combine()` method to the interactions pane.