Exercise 1. (5 Points)

Considering the following two classes, Bicycle and MainClass, complete the needed instructions in the MainClass:

```java
public class Bicycle {
    private int cadence;
    private int gear;
    private int speed;

    public Bicycle(int startCadence, int startSpeed, int startGear) {
        gear = startGear;
        cadence = startCadence;
        speed = startSpeed;
    }

    public int getCadence() {
        return cadence;
    }

    public void setCadence(int newValue) {
        cadence = newValue;
    }

    public int getGear() {
        return gear;
    }

    public void setGear(int newValue) {
        gear = newValue;
    }

    public int getSpeed() {
        return speed;
    }

    public void applyBrake(int decrement) {
        speed -= decrement;
    }

    public void speedUp(int increment) {
        speed += increment;
    }
}
```
Here is the MainClass.java

```java
public class MainClass {
    public static void main(String[] args) {

        // Write the program segment needed to declare two objects of type Bicycle named C1(10, 20, 30) and C2(15, 30, 45), respectively.

        // Write the program segment needed to display the three data fields of the object C1.

        // Write the program segment needed to speedup object C2 with 5 units.

        // Write the program segment needed to copy C2 into C1.

        // Write the program segment needed to check if C1 and C2 are equals.
    }
}
```
Exercise 2. (5 Points)

Multiple Choice Questions: (1 pts each)

1. A variable that is declared inside a method is called ______ variable.
   a. a static
   b. an instance
   c. a local
   d. a global
   e. a class

2. Each Java class must contain a main method.
   a. true
   b. false

3. What is (int)Math.random()?
   a. 0
   b. 1
   c. both 0 and 1 are possible
   d. None of the above

4. Analyze the following code:

   ```java
   class Test {
     public static void main(String[] args) {
       System.out.println(xMethod((double)5));
     }

     public static int xMethod(int n) {
       System.out.println("int");
       return n;
     }

     public static long xMethod(long n) {
       System.out.println("long");
       return n;
     }
   }
   ``

   a. The program displays int followed by 5.
   b. The program displays long followed by 5.
   c. The program runs fine but displays things other than given in a and b.
   d. The program does not compile.
   e. None of the above.

5. You may have a return statement in a void method.
   a. true
   b. false
Exercise 3. (10 Points)

a. (3 pts) Write a method that will return the sum of all digits in an integer. The method signature is as follows:

\[
\text{public static int sum(int number)}
\]

(for example, sum(1234) returns 10 and sum(12345) returns 15.)

b. (3 pts) Write a method that will display numbers from 1 to n. The numbers are separated by one space. The method signature is as follows:

\[
\text{public static void displayNumber(int n)}
\]

c. (4 pts) Write the above methods into a Test class and invoke them using the number 20112012. Snapshot the result in your report.