Consider the following program extract from a server application:

```java
ServerSocket ss = new ServerSocket(2311);
while(true) {
    Socket s = ss.accept();
    ObjectOutputStream oos =
    new ObjectOutputStream(s.getOutputStream());
    oos.writeObject(new Date());
    s.close();
}
```

(a) Describe the difference between Socket and ServerSocket, including the operation of the accept() method. [3 marks]

(b) Write a client program which connects to the server, receives an object, and prints the result of the object’s toString() method. The three checked exceptions should be handled individually and an appropriate message printed. Ignore unchecked exceptions such as OutOfMemoryError. [5 marks]

(c) Does the execution of the toString() method in Part (b) pose a security risk to the client? Explain your reasoning. [2 marks]

(d) Rewrite the server to support multiple simultaneous client connections. Every second, the server should send a new Date object followed by an Integer object to all clients. The Integer object should contain the number of connected clients. [10 marks]