

Last Name: \_\_\_\_\_ First Name: \_\_\_\_\_

**Multiple Choice** (40 items @ 2.5 point each) Select the letter in front of the most correct answer, and mark your scantron accordingly.

- When an object is created, space is reserved in memory for that object's \_\_\_\_\_.
  - constructor
  - instance data
  - methods
  - class header
  - local variables
- In which of the following lines of code is a variable declared but not initialized?
  - `int var1 = 3;`
  - `int var2;`
  - `var2 = 1 / 6;`
  - `var1 = var2;`
  - `Integer i = new Integer(var1);`
- Which of the following lines contains a narrowing conversion?
  - `double value1 = Double.parseDouble(str);`
  - `int value = "Exam 1!".length();`
  - `double value3 = (int) 3.5;`
  - `int value4 = 4;`
  - both b and c
- Fill in the blank in the Javadoc comment below:

```
/**
 * Adds interest to the account balance.
 *
 * @_____ The interest.
 */
public void addInterest(double rate)
```

  - param
  - return
  - param rate
  - return rate
  - param args
- Which of the following is executed first when you run your Java application?
  - The constructor of your class
  - The main method of your class
  - The toString method of your class
  - All static methods of a class
  - None of the above

6. A private method is referred to as a(n) \_\_\_\_\_ method, while a public method is referred to as a(n) \_\_\_\_\_ method.
- static, class
  - class, static
  - support, service
  - static, service
  - service, static
7. Which of the following best describes the variable num?  
Integer num = new Integer(10);
- a double type variable
  - a reference type variable
  - a primitive type variable
  - a static variable
  - a constant field
8. Which of the following (if any) is not a valid variable name?
- old
  - new
  - total\$
  - an\_input
  - All of the above are valid variable names.
9. Which of the following represents the Java interpreter on your computer and is responsible for running your Java program?
- jGRASP.exe
  - java.exe
  - javac.exe
  - run.exe
  - Any IDE can act as a Java interpreter.
10. Suppose that your program produces an incorrect answer as a result of integer division. What type of error is produced?
- a style error
  - a compile-time error
  - a run-time error
  - a logical error
  - All of the above are valid answers.
11. Which of the following instance fields violates encapsulation?
- public static final int XMAX = 10;
  - private static final int POINTS = 1052;
  - private boolean isIt = true;
  - private double weight;
  - None of the above violates encapsulation.

12. Which of the following lines of code **invokes** a method?

- a. `private double yCoord;`
- b. `public static void main(String[] args)`
- c. `System.out.println("Invalid input");`
- d. `public class PaymentMethod`
- e. b and d only

13. What is printed to standard output after the following line of code is executed?

```
System.out.println("The answer is: " + 24 + 25);
```

- a. The answer is: 49
- b. The answer is: 50
- c. The answer is: 2425
- d. The answer is: +49
- e. The answer is: +50

14. Given the Java API specification below, what is the parameter type of the matches method?

boolean	<code>matches(String regex)</code> Tells whether or not this string matches the given <a href="#">regular expression</a> .
---------	---

- a. boolean
- b. matches
- c. String
- d. regex
- e. void

15. A \_\_\_\_\_ class diagram shows the relationships between classes in a project.

- a. JDK
- b. IDE
- c. UML
- d. ASCII
- e. None of the above.

16. A(n) \_\_\_\_\_ method changes the \_\_\_\_\_ of the object.

- a. accessor, state
- b. state, accessor
- c. mutator, behaviors
- d. static, state
- e. mutator, state

17. On which of the following line is the toString() method of the client object invoked implicitly?

- a. `System.out.print(client);`
- b. `Client client = new Client("Adrian Beltre");`
- c. `String name = client.getName();`
- d. `Double.parseDouble(client.getNumber());`
- e. None of the above invokes a toString method implicitly.

18. Consider the following method header:

```
public boolean spend(double amountSpent)
```

Complete the code below to call the spend method:

```
_____ x = customer.spend(userInput);
```

- public
  - double
  - void
  - int
  - None of the above.
19. Which of the following provides the object equivalent of a primitive type?
- Wrapper class
  - System class
  - The Scanner class
  - Math class
  - There is no object equivalent of a primitive type
20. What is the value of y after the following code is executed?
- ```
double y = 7 - 3 / 3 - 2;
```
- 2.0
  - 1.0
  - 0.0
  - 2.0
  - 4.0
21. What is the value of guests after the following code is executed?
- ```
int guests = 0;  
guests++;
```
- 1
  - 0
  - 1
  - 2
  - 3
22. Which of the following consecutively executed lines of code performs conversion via promotion?
- int number = 6;
  - double value = 2.3, actual = number;
  - System.out.println((double)number / value);
  - actual = number / value;
  - value = value / 2.0;

23. Which of the following lines of code modifies the String object referenced by the variable strInput?
- a. `int total = strInput.length();`
  - b. `return strInput.replace("a", "@");`
  - c. `System.out.println("Input: " + strInput + "\n");`
  - d. `double x = Double.parseDouble(strInput);`
  - e. None of the above.
24. The statement below provides a program access to the \_\_\_\_\_ class in the \_\_\_\_\_ package.
- ```
import java.io.PrintWriter;
```
- a. io, java
  - b. java.io, PrintWriter
  - c. Writer, java.io.Print
  - d. java.io.Print, Writer
  - e. PrintWriter, java.io
25. In which of the following lines is a static method invoked?
- a. `int letters = strInput.length();`
  - b. `double x = Double.parseDouble("2.3");`
  - c. `cc.setHeight(6);`
  - d. `public static final int ACE = 1;`
  - e. All of the above invoke static methods.
26. Which of the following lines would print the String referenced by the variable eventName in double quotes?
- a. `System.out.println("\"eventName\");`
  - b. `System.out.println(eventName);`
  - c. `System.out.println("eventName");`
  - d. `System.out.println("\""+eventName+"\"");`
  - e. `System.out.println("+eventName+");`
27. Which of the following lines of code contains a reference variable?
- a. `public static final int PLAYER1 = 0;`
  - b. `Scanner scan = new Scanner(System.in);`
  - c. `private int score;`
  - d. `public void setVolume(double volumeIn)`
  - e. `converted = (double)num;`

28. Which of the following lines directly invokes a constructor?
- a. `String output = new String("Red Sox");`
  - b. `public static void main(String[] args)`
  - c. `module.construct();`
  - d. `public class PaymentMethod`
  - e. None of the above
29. Which of the following is a valid constructor header for the Product class?
- a. `public int Product(String name, double price)`
  - b. `public void Product(String name, double price)`
  - c. `public Construct(String name)`
  - d. `public Product()`
  - e. Both a and b are valid
30. Below four variables are declared, of which, three are initialized in the declaration. Which of the variables cannot be set to a new value in a subsequent assignment statement?
- a. `private double length;`
  - b. `public static final double CEILING = 65;`
  - c. `String bestTeam = "Patriots";`
  - d. `private boolean isIt = true;`
  - e. All of the above variables length, CEILING, bestTeam, and isIt can be reassigned values.
31. Which of the following is a character literal?
- a. `private byte num;`
  - b. `'y'`
  - c. The Character class
  - d. `import java.io.*;`
  - e. `char a;`
32. What is the value of x after the following code is executed?
- ```
int x = 14 % 6;
```
- a. 0
  - b. 2.333333
  - c. 20
  - d. 1
  - e. 2

Use the following code segment to answer questions 33 through 40. Questions 33 through 36 are fill-in-the-blank with the choices to the right of the blank in caption boxes.

```

1   public class CreditCard
2   {
3       private String customer;
4       private double balance, interest;
5
6       public CreditCard(String name, double rate){
7           customer = name;
8           interest = rate;
9       }
10
11      public double spend(_____ amountSpent){
12          balance += amountSpent;
13          return balance;
14      }
15
16      public void chargeInterest(){
17          _____ balance + (balance * interest);
18      }
19
20      public _____ getBalance(){
21          return balance;
22      }
23
24      public void payBalance(double amountPaid){
25          balance = balance - amountPaid;
26      }
27
28      public String toString(){
29          _____ "Name: " + customer + "\n"
30              + "Interest rate: " + interest + "%\n"
31              + "Balance: $" + balance + "\n";
32          return output;
33      }
34  }

```

33. a. boolean  
b. static  
c. void  
**d. double**  
e. None of the above

34. a. return  
**b. balance =**  
c. private  
d. output =  
e. None of the above

35. a. return  
b. static  
c. void  
d. boolean  
**e. None of the above**

36. a. return  
b. static  
c. output =  
**d. String output =**  
e. None of the above

37. Which of the following variables can be accessed by all methods in the CreditCard class?

- a. amountPaid
- b. customer**
- c. spend
- d. output
- e. rate

38. Which of the following is a formal parameter?
- a. customer
  - b. String
  - c. double
  - d. output
  - e. None of the above
39. Which of the following lines of code correctly instantiates a CreditCard object?
- a. `CreditCard cc = CreditCard.instantiate();`
  - b. `CreditCard cc = new CreditCard(myName, ccRate);`
  - c. `CreditCard = new CreditCard(String myName, double ccRate);`
  - d. `CreditCard cc = new CreditCard(34, "Jane");`
  - e. `CreditCard cc = new CreditCard(String myName, double rate);`
40. Which of the following lines of code correctly invokes the payBalance method?
- a. `CreditCard.payBalance();`
  - b. `CreditCard.payBalance(double amt);`
  - c. `CreditCard.payBalance(amt);`
  - d. `cc.payBalance(amt);`
  - e. `cc.payBalance(double amt)`