Practice Test 2

Multiple Choice
Identify the choice that best completes the statement or answers the question.

_____ 1. A problem-solving approach that breaks tasks into smaller subtasks is called
    a. bottom-up development.   c. top-down development.
    b. task division development.   d. procedural development.

_____ 2. A method is executed when it is
    a. typed.   c. declared.
    b. called.   d. named.

_____ 3. Which best describes top-down development?
    a. A project leader assigning tasks to team members.
    b. Assembling a program using reusable code only.
    c. Documenting a convoluted block of code.
    d. Breaking tasks down into subtasks when developing software.

_____ 4. Which keyword is an access modifier?
    a. `static`   c. `public`
    b. `void`   d. `call`

_____ 5. Which part of the method declaration determines if the method can be called by other methods?
    a. the access modifier   c. the arguments
    b. the access level   d. the postcondition

_____ 6. Which keyword indicates a method will not return a value?
    a. `static`   c. `public`
    b. `void`   d. `call`

_____ 7. Which statement calls the method `inchesToCentimeters()`?
    a. `call inchesToCentimeters;`
    b. `inchesToCentimeters(call);`
    c. `inchesToCentimeters();`
    d. `execute inchesToCentimeters();`

_____ 8. *Given the following code segment:*

```
public static void prob(int x, int y) {
    System.out.print(x + " ");
    if (x <= y) {
        System.out.println(x + y);
    }
 }
```

Which will be displayed when `prob(6, 7)` is called?
    a. `6 7`   c. `x + 7`
    b. `x + 6`   d. `6 13`

_____ 9. When more than one method of the same name is included in a class, it is referred to as method
    a. passing.   c. overloading.
    b. duplicating.   d. voiding.

_____ 10. *Given the following application:*

```
public class Calculation {

  public static int lineLength(int x, int y) {
   int length;
   length = x * y;
   return length;
  }

  public static int lineLength(int x) {
   int length;
   length = x * x;
   return length;
  }

  public static void main(String[] args) {
     System.out.println(lineLength(5));
  }
}
```

Which will be displayed when the application is run?

a.	5	c.	25
b.	10	d.	A syntax error will be generated.

_____ 11. *Given the following application:*

```
public class Comparison {

  public static double maxNum(int num1, int num2) {
    if (num1 > num2) {
      return num1;
    } else {
        return (num2);
    }
  }

   public static double maxNum(int value1, int value2) {
    if (value1 > value2) {
      return value1;
    } else {
        return (value2);
    }
   }

   public static void main(String[] args) {
     System.out.println(maxNum(1, 2));
   }
}
```

Which will be displayed when the application is run?

a.	1	c.	2.0
b.	2	d.	A syntax error will be generated.

____ 12. *Given the following code segment:*

```
public static int prob2(int x, int y) {
    int j;
    j = y + 2;
    j += x * 2;
    return(j);
}

public static void main(String[] args) {
    int j = 6, k = 4;
    j = prob2(j, k);
    System.out.println(j);
}
```

Which will be displayed after the code executes?
a. 12
b. 18
c. 24
d. A syntax error will be generated.

____ 13. Which is used to enclose documentation comments for a method?
a. `/**      */`
b. `"            "`
c. `//`
d. `/*        **/`

____ 14. Which is true about objects?

  I.   Objects can store data.
  II.   Objects can perform actions.
  III. Objects can provide communication.

a. I only
b. I and II only
c. II and II only
d. I, II, and III

____ 15. Which is a data type that defines variables for the state of an object and methods for an object's behavior?
a. String
b. class
c. encapsulation
d. `int`

____ 16. Which refers to the data an object stores?
a. behavior
b. state
c. instance
d. encapsulation

____ 17. Protecting an object's data is called
a. inheritance.
b. object security.
c. object casting.
d. encapsulation.

____ 18. Which is included in a class declaration?

  I.   access level
  II.   keyword `class`
  III. class name
  IV.   class body

a. I and II only
b. I, II, and III only
c. II, III, and IV only
d. III and IV only

____ 19. Which is included in a class body?

        I.   methods
        II.   variables
        III.   constructors

a. I only   c. II and III only
b. I and III only   d. I, II, and III

____ 20. The visibility of a member variable is controlled with a(n)
a. behavior.   c. access modifier.
b. constructor.   d. instance variable.

____ 21. The methods in a class can be

        I.   accessor methods
        II.   modifier methods
        III.   helper methods

a. I only   c. I and III only
b. I and II only   d. I, II, and III

____ 22. Which keyword is used to declare a class variable?
a. `private`   c. `static`
b. `public`   d. `void`

____ 23. Which statements are true?

        I.   Instance variables are created each time an object is declared.
        II.   Instance methods can only be called from the class itself.
        III.   Class methods can be called from the class itself.
        IV.   Instance variables are created each time an object is declared. (duplicate, but valid)

a. I only   c. I, III, and IV only
b. II and III only   d. I, II, III, and IV

____ 24. When a subclass redefines a superclass method, the subclass method
a. overrides the superclass method.
b. inherits the superclass method.
c. encapsulates the superclass method.
d. casts the superclass method.

____ 25. Which will be generated if an Object variable is cast with an incompatible class?
a. a syntax error   c. InputMismatchException
b. a logic error   d. ClassCastException

____ 26. Which describes an application that uses components that are separately written and maintained?
a. client code   c. reusable
b. modular   d. inherited

```
public class Moo {

    private int i;

    public Moo {
     i = 100;
    }

    public void setI(int j) {
     i = j;
    }

    public int getI() {
     return(i);
    }

    public int calculate() {
     i = i * factor();
     return(i);
    }

    private int factor() {
     return(1.2);
    }
}
```

_____ 27. Which is the name of the class?
    a.   Moo   c.   factor
    b.   calculate   d.   public

_____ 28. Which is the name of the data member?
    a.   i   c.   Moo
    b.   j   d.   factor

_____ 29. Which is the modifier member?
    a.   calculate()   c.   getI()
    b.   factor()   d.   setI()

_____ 30. Which is the helper member?
    a.   calculate()   c.   getI()
    b.   factor()   d.   setI()

_____ 31. Which is the name of the constructor?
    a.   calculate   c.   getI()
    b.   factor   d.   Moo

```
public class Roo {


    private double i;
    private static int j;
    private static final int k;
```

_____ 32. Which data member is an instance member?
    a.   i   c.   k
    b.   j   d.   Roo

_____ 33. Which data members are class members?
    a. i and j only   c. i and k only
    b. j and k only   d. i, j, and k only

_____ 34. Which allows a class to define a specialized type of an already existing class?
    a. polymorphism   c. encapsulation
    b. inheritance   d. reusability

_____ 35. Classes that are derived from existing classes demonstrate a(n)
    a. has-a relationship.   c. derived-a relationship.
    b. is-a relationship.   d. was-a relationship.

_____ 36. Which keyword is included in the class declaration when a class inherits another class?
    a. `static`   c. `extends`
    b. `interface`   d. `super`

_____ 37. Which keyword is used to access methods of the base class?
    a. `static`   c. `extends`
    b. `interface`   d. `super`

Given the following code segment:

```
public class Box extends Square {
    private double sides;
```

_____ 38. Which is the base class?
    a. Square   c. sides
    b. Box   d. extends

_____ 39. Which keyword is used to declare an abstract class?
    a. `abstract`   c. `static`
    b. `extends`   d. `super`

_____ 40. How many methods does the Comparable interface contain?
    a. 0   c. 5
    b. 1   d. 8