

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

- 1) _____ is invoked to create an object. 1) _____
A) A method with a return type B) A method with the void return type
C) A constructor D) The main method

- 2) Which of the following statement is false? 2) _____
A) Constructors do not have a return type, not even void.
B) At least one constructor must always be defined explicitly.
C) Constructors must have the same name as the class itself.
D) A default no-arg constructor is provided automatically if no constructors are explicitly declared in the class.
E) Constructors are invoked using the new operator when an object is created.

- 3) The default value for data field of a boolean type, numeric type, object type is _____, respectively. 3) _____
A) false, 1, null
B) true, 0, null
C) true, 1, null
D) true, 1, Null
E) false, 0, null

- 4) Which of the following statement is false? 4) _____
A) Local variables do not have default values.
B) A variable of a reference type holds a reference to where an object is stored in the memory.
C) You may assign an int value to a reference variable.
D) Data fields have default values.
E) A variable of a primitive type holds a value of the primitive type.

- 5) Analyze the following code: 5) _____

```
public class Test {  
    public static void main(String[] args) {  
        double radius;  
        final double PI= 3.15169;  
        double area = radius * radius * PI;  
        System.out.println("Area is " + area);  
    }  
}
```

- A) The program has a compile error because a constant PI is defined inside a method.
B) The program has no compile errors but will get a runtime error because radius is not initialized.
C) The program compiles and runs fine.
D) The program has compile errors because the variable radius is not initialized.

6) Analyze the following code.

6) _____

```
public class Test {
    int x;

    public Test(String t) {
        System.out.println("Test");
    }

    public static void main(String[] args) {
        Test test = new Test();
        System.out.println(test.x);
    }
}
```

- A) The program has a compile error because you cannot create an object from the class that defines the object.
- B) The program has a compile error because System.out.println method cannot be invoked from the constructor.
- C) The program has a compile error because x has not been initialized.
- D) The program has a compile error because Test does not have a default constructor.

7) Given the method heading: `public int addCans(int x)` which statement is false

7) _____

- A) This method will return an integer
- B) This method will receive an integer value
- C) This method may have the statement `cans = cans + x;`
- D) This method may have the method `cans + x = cans;`

8) If there are two or more constructors for a class, the constructor is said to be:

8) _____

- A) overloaded
- B) objectized
- C) encapsulated
- D) duplicated

9) The main purpose of a constructor is to:

9) _____

- A) initialize instance variables
- B) construct a method
- C) return a value
- D) name the method

10) If you do not explicitly assign a value to a String instance field, the instance field is initialized to a default value of

10) _____

- A) null
- B) 0
- C) blank (which means "")
- D) it is not initialized

11) If you do not explicitly assign a value to a numeric instance field, the instance field is initialized to a default value of

11) _____

- A) 0
- B) null
- C) blank (which means "")
- D) it is not initialized

12) Local variables die when . . .

12) _____

- A) the method exits
- B) the object is no longer in use
- C) the program ends
- D) you explicitly delete them

- 13) Which of the following is a valid constructor heading for a class called Boat? 13) _____
- A) public Boat(String model) B) public class Boat(String model)
C) public boat(String model) D) publicclass Boat()

- 14) Assume the variable declarations below for this problem: 14) _____

`int x = 3, y = 2, z = x + y;`

Which of the following output statements correctly displays the sentence below?

`3 + 2 = 5`

- 15) Which of the following is not a primitive data type 15) _____
- A) String B) int C) char D) boolean

- 16) You use the _____ operator to access members of an object. 16) _____
- A) . B) % C) * D) ()

- 17) The default constructor has no arguments. 17) _____
- A) true B) false

- 18) All local variables in a method have default values. 18) _____
- A) true B) false

- 19) Analyze the following code: 19) _____

```
class Circle {  
    private double radius;  
    public Circle(double radius) {  
        radius = radius;  
    }  
}
```

- A) The program has a compilation error because you cannot assign radius to radius.
B) The program will compile, but you cannot create an object of Circle with a specified radius. The object will always have radius 0.
C) The program does not compile because Circle does not have a default constructor.
D) The program has a compilation error because it does not have a main method.

- 20) Which of the following statements are true? 20) _____
- A) Constructors are invoked using the new operator when an object is created.
 - B) Constructors do not have a return type, not even void.
 - C) Constructors must have the same name as the class itself.
 - D) Multiple constructors can be defined in a class.
 - E) All statements are true

- 21) What is wrong in the following code? 21) _____

```
class TempClass {  
    int i;  
    public void TempClass(int j) {  
        int i = j;  
    }  
}  
  
public class C {  
    public static void main(String[] args) {  
        TempClass temp = new TempClass(2);  
    }  
}
```

- A) The program has a compilation error because TempClass does not have a constructor with an int argument.
- B) The program compiles and runs fine.
- C) The program compiles fine, but it does not run because class C is not public.
- D) The program has a compilation error because TempClass does not have a default constructor.

- 22) You can declare two variables with the same name in _____. 22) _____

- A) different methods in a class
- B) a block
- C) two nested blocks in a method (two nested blocks means one being inside the other)
- D) a method one as a formal parameter and the other as a local variable

- 23) You can always use the default constructor even though the non-default constructors are defined in the class. 23) _____

- A) true
- B) false