Name: _____ **Class:** _____ **Date:** _____ **ID: A**

Practice Test 3

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

____ 1. Which is a valid declaration statement?
a. `int height int width;`
b. `int height, width;`
c. `int height; width;`
d. `int height, int width;`

____ 2. Which statement assigns the value 15 to `radius`?
a. `radius = 15;`
b. `radius == 15;`
c. `15 = radius;`
d. `15radius;`

____ 3. Which is <u>not</u> a primitive data type?
a. `int`
b. `double`
c. `constant`
d. `boolean`

____ 4. Which data type declares a variable that stores a true or false value?
a. `int`
b. `double`
c. `char`
d. `boolean`

____ 5. How many bytes are used to store an `int` variable?
a. 2
b. 4
c. 8
d. 16

____ 6. Which data type is most appropriate for whether an employee qualifies for a bonus?
a. `int`
b. `double`
c. `boolean`
d. `char`

____ 7. Which term describes creating a new object?
a. initialize
b. instantiation
c. concatenate
d. literal

____ 8. A variable declared with a class is called a(n)
a. method.
b. identifier.
c. keyword.
d. object.

____ 9. Which statement declares a new object named `dot` using a class named Oval?
a. `dot = new Oval();`
b. `Oval dot = new;`
c. `Oval dot = new Oval();`
d. `Oval dot = Oval();`

____ 10. Which Scanner class method is used to return a string that does not contain spaces from the input stream?
a. `nextBoolean()`
b. `nextInt()`
c. `nextLine()`
d. `next()`

____ 11. Which operator is used for modulus division?
a. `/`
b. `\`
c. `%`
d. `#`

____ 12. Which expression does not evaluate to 0.6?
a. `6.0 / 10;`
b. `6 / 10.0;`
c. `(int)6.5 / (double)10;`
d. `(double) (6 / 10);`

____ 13. In which situation would the expression `(!x && y) || !(!x || y)` evaluate to true?
a. if `x` and `y` both have the initial value true
b. if `x` and `y` both have the initial value false
c. if `x` has the value true and `y` has the value false
d. the expression would never evaluate to true

____ 14. Which type of error occurs in statements that are syntactically correct, but produce undesired or unexpected results?

a. syntax error
b. semantic error
c. run-time error
d. exception error

____ 15. *Given the following code segment:*

```
if (x > 0) {
     if (y > 0)  {
          System.out.println("x  and y ");
     } else if (z > 0) {
          System.out.println("x and z ");
     }
}
```

Which is displayed when x = 56, y = -234, and z = -45?

a. `x and y`
b. `x and z`
c. `56 and -45`
d. No output will be displayed.

____ 16. A `switch` statement must evaluate to

a. a boolean value.
b. an integer.
c. a floating point number.
d. a default code.

____ 17. *Given the following code segment:*

```
switch (quantity) {
     case 10: System.out.println("Quantity is too low."); break;
     case 11:
     case 12:
     case 13:
     case 14:
     case 15: System.out.println("Quantity is in the correct range."); break;
     case 16:
     case 17:
     case 18:
     case 19:
     case 20: System.out.println("Quantity is too high."); break;
}
```

Which message would be displayed if quantity is 18?

a. `Quantity is too low.`
b. `Quantity is in the correct range.`
c. `Quantity is too high.`
d. No message would be displayed.

____ 18. *Given the following code segment:*

```
switch (groupNumber) {
     case 1: System.out.println("You are in group 1.");
     case 2: System.out.println("You are in group 2.");
     case 3: System.out.println("You are in group 3.");
}
```

What message would be displayed if groupNumber is 1?

a. `You are in group 1.`
b. `You are in group 2.`
c. `You are in group 3.`
d. `You are in group 1.`
   `You are in group 2.`
   `You are in group 3.`

____ 19. *Given the following code segment:*

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

What is range of the random number generated?

a. between 0.0 and 100.0
b. between 1.0 and 10.0
c. between 0.0 and 1.0
d. No random number will be generated because no range was indicated.

____ 20. Which is equivalent to the expression `!(x && y)`?

a. `(!x) || (!y)`
b. `! (x || y)`
c. `(x || y) && (x && y)`
d. `(x || y)`

____ 21. In which situation would the expression `(!x && y) || !(!x || y)` evaluate to true?

a. if x and y both have the initial value true
b. if x and y both have the initial value false
c. if x has the value true and y has the value false
d. the expression would never evaluate to true

____ 22. Which expressions are equivalent to each other?

I. `(a == b && a != c) || (a != b && a == c)`
II. `(a == b) != (a == c)`
III. `(a == b || a == c) && (a != b || a != c)`

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

____ 23. Which statement will display the value of 4.0?

a. `System.out.println(Math.sqrt(2));`
b. `System.out.println(Math.abs(-16));`
c. `System.out.println(Math.pow(2, 2));`
d. `System.out.println(Math.pow(2));`

____ 24. *Given the following code segment:*

```
double x = 5.86859;
int y = 100;
int calculation = (int)(x * Math.pow(y, 2));
System.out.println(calculation);
```

Which is the correct output?

a. `50000`
b. `58685`
c. `58686`
d. `586859`

____ 25. *Given the following code segment:*

```
int x = 0;
while (x < 7) {
 System.out.println("Hello, world!");
 x += 1;
}
```

How many times will `Hello world!` be displayed?

a. 0
b. 6
c. 7
d. 8

____ 26. *Given the following code segment:*

```
int x = 0;
while (x < 10) {
  x = x + 2;
}
```

How many times will the body of the loop execute?

a. 0
b. 2
c. 5
d. 10

____ 27. *Given the following code segment:*

```
int count = 0;
do {
  System.out.println(count);
  count++;
} while (count < 9);
```

What is the value of count after the last loop iteration?

a. 0
b. 8
c. 9
d. 10

____ 28. *Given the following code segment:*

```
int x = 0;
int num = 10;
while (num > x) {
  num = num + 2;
}
```

How many times will the body of the loop execute?

a. 0
b. 2
c. 5
d. an infinite number

Given the following code segment:

```
while (quantityReceived != SENTINEL) {
     numShipments += 1;
     inStock += quantityReceived;
     System.out.print("Enter a value(" + SENTINEL + " to quit): ");
     quantityReceived = input.nextInt();
}
```

____ 29. In the code segment above, which variable is the accumulator?

a. `quantityReceived`
b. `numShipments`
c. `inStock`
d. `SENTINEL`

____ 30. Which statement correctly updates the accumulator `newTotal`?

a. `newTotal = Accumulator(newSale);`
b. `newTotal += 1;`
c. `newTotal += newSale;`
d. `newTotal = newTotal / newTotal;`

____ 31. *Given the following code segment:*

```
for (int i = 1; i <= 10; i++) {
  System.out.println(i);
}
```

What value of `i` is displayed in the last loop iteration?

a. 1
b. 10
c. 11
d. 12

____ 32. *Given the following code segment:*

```
for (int i = 0; i < 10; i++) {
  for (int j = 0; j < 3; j++) {
    System.out.print("#");
  }
}
```

How many number signs will be displayed when the code segment is run?

a. 3
b. 4
c. 30
d. 300

____ 33. *Given the following code segments:*

```
I.  int a = 0;
    int b = 10;
    while (b > 0) {
      a++;
      b--;
    }
    System.out.print(a);

II. b = 10;
    for (int a = 0; b > 0; b--) {
      a++;
    }
    System.out.print(a);
```

Which statement is true?

a. The output of I and II will be the same.
b. The output of I will be `10` and the output of II will be `12345678910`.
c. Segment II will generate a syntax error.
d. Segment II will generate an infinite loop.

____ 34. Which debugging tool is the table below an example of?

num1	output	num2
0	0	2
		4
4	4	6
		8
8	8	10

a. breakpoints
b. additional println() statements
c. output table
d. variable trace

____ 35. Which String class method returns a copy of the string with all leading and trailing spaces removed?

a. length()
b. substring()
c. trim()
d. toLowerCase()

____ 36. *Given the following code segment:*

```
public class Comparison {
  public static void main(String[] args) {
    String name1 = new String("Justin");
    String name2 = new String("Justin");

    if (name1.equals(name2)) {
       System.out.println("the names are the same");
    } else {
       System.out.println("the names are different");
    }
  }
}
```

What is the result of the `if` condition Boolean expression?

a. 0
b. 1
c. true
d. false

____ 37. Which String class method will returns the value true when the first three letters of the string are `whi`?

a. `length("whi")`
b. `startsWith(String "whi")`
c. `endsWith(String "whi")`
d. `compareTo(String "whi")`

____ 38. *Given the following code segment:*

```
String Name = "MichaelWatson";
String newName;
newName = Name.substring(3, 5);
```

What is the value of `newName` after the statements execute?

a. `ha`
b. `hae`
c. `cha`
d. `chael`

____ 39. Which statement is used to convert a lowercase string to an uppercase string?

a. `newString = firstName.toUpperCase();`
b. `newString = toUpperCase.firstName;`
c. `newString = firstName.Trim();`
d. `newString = toLowerCase().toUpperCase(firstName);`

____ 40. *Given the following code segment:*

```
System.out.println(newName);
String greeting = "HELLO";
String greeting2 = "Hello";
int value;
value = greeting.compareToIgnoreCase(greeting2);
```

Which is stored in `value` after the statements execute?

a. the value 0
b. a positive number
c. a negative number
d. the value False