CPS 210 - Exam 1

Name:

---

1) (5 pts) In Java, an int can be assigned to a double, but a double cannot be assigned to an int.

- True
- False

2) (5 pts) The binary number 101 is equivalent to 5 in decimal. What is 1101 equivalent to in decimal?

3) (10 pts) The + sign can mean both addition and concatenation in Java. Give an example of the + sign being addition in Java. Give an example of the + sign being used as concatenation in Java:

Addition:

Concatenation:

4) (10 pts) What is the output of the following code?

```
int a = 5;
boolean b = a > 3;
boolean c = false;
boolean d = b || c;
boolean e = c && d;
System.out.println(e);
```

- true
- false
- 5
- 0

5) (15 pts) There are multiple errors in the following code. Identify the errors and rewrite the code so that it will compile and run correctly:

```
CLASS main
(
    public static void Main(String arg)
    (
        System.out.printl(Correct the errors)

        int num = 4.5;

        System.out.printn("%-12s%-8s%.1d", "New Paltz", 123, 40.1);

    )

)
```

6) (15 pts) The calculation to find the slope (angle) of a line that connects two points on a plane is below. Create a Java program that calculates the slope for the following values: x1 = 2, x2 = 4, y1 = 1, and y2 = 3. You MUST use variables to hold all data, including a variable to hold the value of slope. Display the value of slope.

Slope = (y2 - y1) / (x2 - x1)

7) (20 pts) Declare and initialize 3 variables with the following values: 34.5, 5, 18.75. Calculate the sum of the three variables. Then calculate the average of the three variables. Display both the sum and average.

8)(20 pts) Write a program that declares and initializes a variable with the value 5, representing the length of a plank of wood in feet. Convert this length from feet to meters using the conversion formula provided below. Then, determine whether the plank's length exceeds 2 meters. The program should output 'true' if the length is greater than 2 meters, or 'false' otherwise. Avoid using if/else statements in your solution.

1 foot = 0.3048 meters