Introduction to Computer Science: Practice 2

[Basic Training]

1. Please check the result of the following statements and explain it.

```java
int x = 1, y = 2;
double a = x, b = y;
double xy = x / y;
double ab = a / b;
double d_xy = (double) x / y;
System.out.println(xy + " " + ab + " " + d_xy);
```

2. Write a program that convert 2, 5, and 10 inches to millimeters (1 inch = 25.4mm)

3. Please write a program to convert a temperature in Fahrenheit to Celsius. The conversion formula is the following:

\[
T_c = \frac{5}{9}(T_f - 32)
\]

Where \( T_c \) is the temperature in Celsius and \( T_f \) is the temperature in Fahrenheit, and 32 is the freezing point of water.

```java
public class TemperatureConversion {
    public static void main ( String [] args )
    {
        // 1. Declare any constants here
        // 2. Declare the temperature in Fahrenheit as an int
        // 3. Calculate equivalent Celsius temperature
        // 4. Output the temperature in Celsius
        // 5. Convert Celsius temperature back to Fahrenheit
        // 6. Output Fahrenheit temperature to check correctness
    }
}
```
4. Please write a java program that asks user to input radius of a circle and would output the diameter, circumference and area of the circle. (Hint: Use the Console I/O to get user input. Check the ConsoleInExample in examples.)