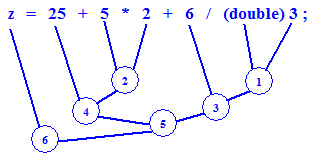
ICS 102 Sample Quiz01 Key Term 172 (3%) (Duration: 20 minutes)

1. [4 points] By using the minimum number of parentheses , convert the following mathematical formula to a Java statement:

**z = 4 \* Math.pow(x, 9) + Math.sqrt(3 \* y + 4 ) / (7 \* k) ;**

1. [5 points] Draw the evaluation tree of the following Java statement:

z = 25 + 5 \* 2 + 6 / (double) 3;



1. [5 points] What is the output of the following Java program fragment?

double y = 7.5;

int w = (int) y / 2 + 3 % 5 + 8 % 3;

System.out.println("w = " + w + ", y = " + y);

**w = 8, y = 7.5**

1. [6 points] What is the output of the following Java program fragment?

String str1 = "Riyadh";

String str2 = "Riyadh";

String str3 = new String("Riyadh");

String str4 = new String("Riyadh");

System.out.println(str1 **==** str2); **true**

System.out.println(str1 **==** str3); **false**

System.out.println(str1.equals(str3)); **true**

System.out.println(str4.compareTo(str3)); **0**

1. [10 points] Write a complete Java program that prompts for and reads the **length** and **width** of a rectangle each in centimeters. The program then computes and displays the **area** and the **perimeter** of the rectangle in square centimeters and centimeters respectively.

Sample program run:

Enter the length and width of a rectangle [cm]: 6.5 3.2

The area = 20.80 square cm.

The perimeter = 19.40 cm.

Note: Your program must be general; it must work for any pair of values.

**import java.util.Scanner;**

**public class RectangleComputations {**

**public static void main(String[] args){**

**Scanner scn = new Scanner(System.in);**

**double length, width, area, perimeter;**

**System.out.print("Enter the length and width of a rectangle [cm]: ");**

**length = scn.nextDouble();**

**width = scn.nextDouble();**

**area = length \* width;**

**perimeter = 2 \* (length + area);**

**System.out.printf("The area = %.2f square cm", area);**

**System.out.printf("The perimeter = %.2f square cm", perimeter);**

**}**

**}**