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// MathFuncs methods Paired Programming Assignment
// Use the the documentation from JAVA's Math class to complete the
// following methods
import java.awt.Point;

public class MathFuncs {

    // 1. This method returns the distance between integers a and b

    public static int distance(int a, int b) {

    }

    // 2. This method returns the maximum value of integers a, and b.
    public static int maximum(int a, int b) {

    }

    // 3. This method returns the maximum value of double values a,b,c.

    public static double maximum(double a, double b, double c) {

    }

    // 4. This method will return a random integer between 9 and 12 (inclusive)

    public static int getRandomClass() {

    }

    // 5. This method will return the surface area of a sphere with given radius
    //  $SA = 4\pi r^2$ 
    public static double sphereSurfaceArea(int radius) {

    }

    // 6. This method will return the volume of a sphere with given radius
    //  $V = \frac{4}{3}\pi r^3$ 

    public static double sphereVolume(int radius) {

    }

    // 7. This method will return the length of the hypotenuse of a right
    // triangle
    // with legs leg1 and leg2

    public static double hypotenuse(double leg1, double leg2) {

    }

    // 8. This method will return the length of Segment AB
    // Refer to java's Point class
    public static double segmentLength(Point a, Point b) {

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}

// 9. this method will find the smallest angle (in degrees) of a right
// triangle with with base and height leg1 and leg2
public static double getSmallestAngleOfRightTri(double leg1, double leg2) {

}

// 10. This method will round x to the nearest hundredPlace
// roundToHundredPlace(1297) =====> 1300
public static int roundToHundredPlace(int x) {

}

// 11. This method will round x to the nearest hundredthPlace
// roundToHundredthPlace(12.9756) =====> 12.98
public static double roundToHundredthPlace(double x){

}

public static void main(String[] args) {
    System.out.println("1. DISTANCE: " + distance(-5, 8));
    System.out.println("2. MAX: " + maximum(-5, 8));
    System.out.println("3. MAX: " + maximum(-5, -8, -2));
    System.out.println("4. Random HS Class: " + getRandomClass());
    System.out.println("5. Sphere Surface Area: " + sphereSurfaceArea(9)
        + " sq. units");
    System.out.println("6. Sphere Volume: " + sphereVolume(2)
        + " cubic units");
    System.out.println("7. Hypotenuse: " + hypotenuse(7, 9));
    System.out.println("8. Segment Length: "
        + segmentLength(new Point(1, 3), new Point(-2, 7)));
    System.out.println("9. Smallest Acute Angle: "
        + getSmallestAngleOfRightTri(5, 7));
    System.out.println("10. Round To Hundred Place: "
        + roundToHundredPlace(1297));
    System.out.println("11. Round To Hundredth Place: "
        + roundToHundredthPlace(12.9756));

}

/*OUTPUT
1. DISTANCE: 13
2. MAX: 8
3. MAX: -2.0
4. Random HS Class: 11
5. Sphere Surface Area: 1017.8760197630929 sq. units
6. Sphere Volume: 33.510321638291124 cubic units
7. Hypotenuse: 11.40175425099138
8. Segment Length: 5.0
9. Smallest Acute Angle: 35.53767779197438
10. Round To Hundred Place: 1300
11. Round To Hundredth Place: 12.98 */

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}

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