

Worksheet 7

Method Overloading

Create three overloaded static methods called, shapeArea (...) which can calculate the area of a rectangle, circle and triangle. Use Heron's formula along with the Distance formula to determine the area of the triangle.

```
public static void main(String[] args) {  
  
    double rectangleArea = shapeArea(4.0, 6.0);  
    double circleArea = shapeArea(3.0);  
    double triangleArea = shapeArea(0.0 ,0.0 ,0.0 ,1.0 ,1.0 ,0.0);  
  
    System.out.printf("Area of Rectangle: %.2f\n" , rectangleArea);  
    System.out.printf("Area of Circle: %.2f\n" , circleArea);  
    System.out.printf("Area of Triangle: %.2f\n" , triangleArea);  
}
```

Figure 1 - The Main Program

Sample Session

Area of Rectangle: 24.00
Area of Circle: 28.27
Area of Triangle: 0.50

Figure 2. Output of the Main Program

Heron's Formula

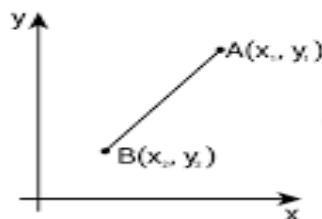


$$A = \sqrt{s(s - a)(s - b)(s - c)}$$

WHERE $s = \frac{a + b + c}{2}$
 s = semi-perimeter

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Distance Formula



$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$