Questions

1. Given a pentagon with side-length of 5, what is its area?

2. Given a triangle with side-length of 4, what is its area?

3. If three times the diameter of a circle is 18, what is its area?

4. If the area of a circle with a radius of 5 is twice the area of a rectangle, what's the area of the rectangle?

5. If the radius of a circle is equal to the sum of the two bases of a trapezoid with a height of 5 and area of 13, what is the area of the circle?

6. A shape is constituent of four identical circles along with a rectangle. The rectangle has an area of 24, and the shape as a whole has a total area of 40π. What is the radius of one of the circles?

7. The radius of a circle with area of $16\pi^2$ and the area of a square with side-length of 5 are the lengths of two axes of an ellipse. Calculate the area of the ellipse.

8. Two identical circles overlap such that the one axis of the overlapping sector is 5, area is 50π, and the other axis is diameter of one circle. What is the area of one circle?

Answers and Scores

1. $\frac{125}{4}\cot(36°)$
2. $12\cot(60°)$
3. 9π
4. $\frac{25}{2}\pi$
5. $\frac{676}{25}\pi$
6. $\sqrt{\frac{2(5\pi-3)}{\pi}}$
7. $100\pi^{\frac{3}{2}}$
8. 25π

#	Points	Score
1	1	
2	1	
3	1	
4	1	
5	1	
6	1	
7	1	
8	1	
$\sum$	8	

Notes