20. Find the apothem of the regular octagon then find it's area.

21. A square is formed by joining the midpoints of alternate sides of a regular octagon. A side of the octagon is 10.
   a. Find the area of the square.
   b. Find the area of the shaded region.
22.

Given a set of four concentric regular hexagons, each with a radius of 1 unit longer than that of the next smaller hexagon (with the smallest hexagon having a radius of 1), find the area of the shaded regions.

24.

A square and a regular hexagon are inscribed in the same circle.

a. Find the ratio of a side of the square to a side of the hexagon.

b. Find the ratio of the area of the square to the area of the hexagon.
26.

Find the area of $\triangle ABC$. 

![Diagram showing points A, B, and C with coordinates (2, 1), (4, 9), and (8, 3) respectively. The area of \triangle ABC is to be calculated.]