## Baseline revue test. Geometry.

1. A right triangle with angles 90, 60, and 30 degrees is inscribed in a circle with diameter 2. Find the area of this triangle.

2. Three equal segments are cut off a circle of radius r so that an equilateral triangle is obtained. Find the area of each of these segments.

3. Four equal segments are cut off a circle of radius r so that a square is obtained. Find the area of each of these segments.

4. Corners of a square with the side a are cut off so that a regular octagon is obtained. Find the area of this octagon.

5. Find the area of a square inscribed in

   a. a quarter circle of radius r, as shown in the Figure below,
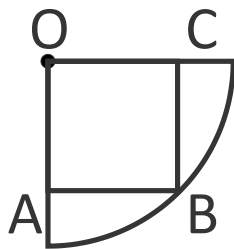
   b. a semicircle circle of radius r as shown in the Figure below.