Problem of the Month

Problem 2: Squeezing circles into a triangle

November 2025

Hint

1. There are plenty of ways to approach this problem. One useful construction is to connect the centres of the circles to each other, then draw a perpendicular from each centre to the line OB.
2. It is possible to apply Question 1 with $\theta = 30°$. While there are other ways to do this, the easiest is probably to turn this into a problem of summing an infinite geometric series. You may want to look up how this is done.
3. In some sense, this is a more general version of Question 2. Adding a geometric series will be useful again here, but the terms will be in terms of the arbitrary θ. You might also find it useful to express the area of the triangle and the area of the largest circle in ways that are easy to compare.