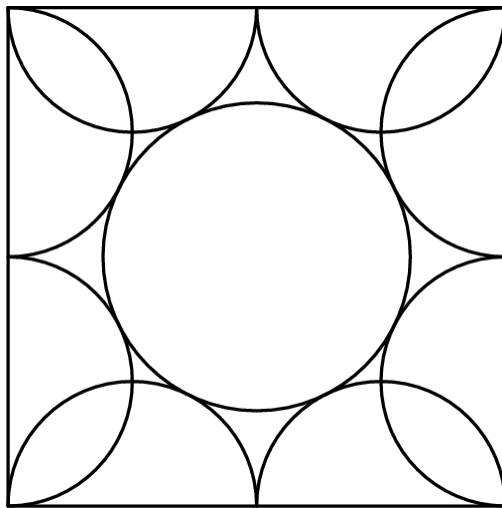


Pi Mu Epsilon Problem of the Month

March 2020

Consider the picture below, in which eight semicircles have their diameters on the side of square with side length 2. A circle is constructed that is tangent to all of these semicircles.

Find the radius of this inner circle.



Problem of the Month Rules:

- ⌘ Submissions must include a complete mathematical justification along with the answer.
- ⌘ Submissions may only be made by individuals or groups of two and must be dated.
- ⌘ Due date: March 27, 2020 before 5 p.m. to Dr. Phillip Poplin or Dr. David Shoenthal.

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