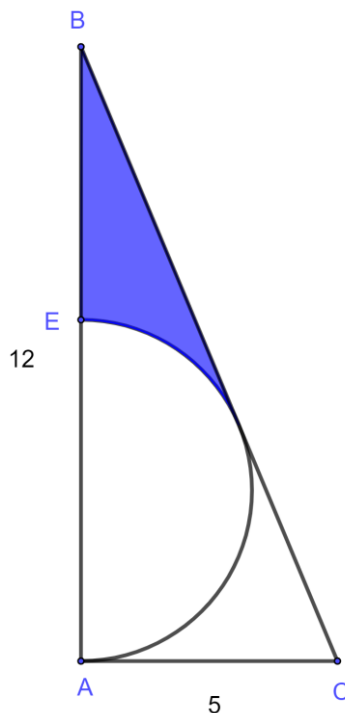


# Pi Mu Epsilon Problem of the Month

## February 2025

In the figure below, a semicircle  $AE$  is inscribed in the right triangle  $ABC$ . Angle  $A$  is a right angle.  $AB=12$  and  $AC=5$ . The semicircle is tangent to  $BC$ . Find the area of the shaded region.



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: February 26, 2025, before 5 p.m. to Dr. Phillip Poplin, Dr. David Shoenthal, Dr. Steven Hoehner, or Dr. Jeff Ledford.

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