

THIS ISSUE'S PUZZLE

A dog is chained to a point of the side of a circular lighthouse of radius 1. The length of the dog's chain is  $\pi$ . The dog may not go inside the lighthouse. How much area can the dog cover?

Please submit the answer only to [puzzles@actuary.org](mailto:puzzles@actuary.org) or by mail to *Contingencies*, 1100 Seventeenth Street NW, Seventh Floor, Washington, DC 20036, Attn: Becky Horst. No solution is required. Please submit your answer as soon as possible to make the solvers list, especially those outside the United States.

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ANSWER TO LAST ISSUE'S PUZZLE

What is the mean distance between two random points in a unit square? An exact expression of the answer is required (no computer simulations). The exact expression must not contain any unsolved integrals.

The answer is  $[\sqrt{2} + 2 + 5 \cdot \ln(1 + \sqrt{2})] / 15 \approx 0.521405433$ .

SEPTEMBER/OCTOBER SOLVERS

J. Adams, Boris Brizeli, Yan Fridman, Carl Malmquist, Al Spooner, David Uhland

JULY/AUGUST SOLVERS

Francis Bernardi

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