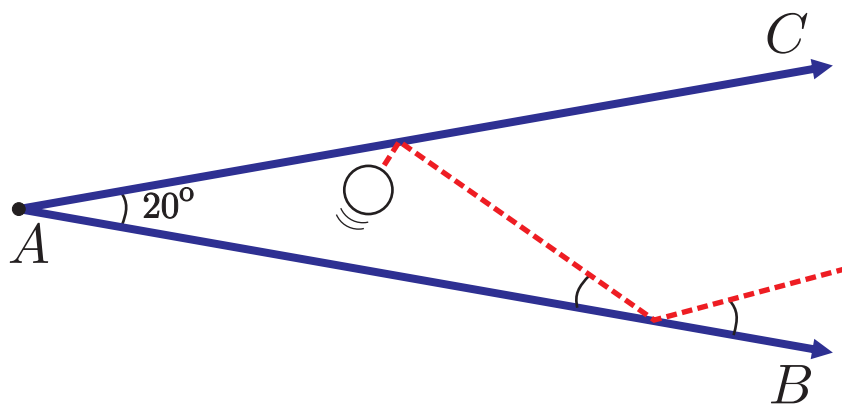


Problem of the Week

Proposed by Bernardo Ábrego and Silvia Fernández

January 26-February 2



A billiard ball strikes ray AB and bounces off to ray AC which is at an angle of 20° with respect to ray AB . The ball continues its path, bouncing off rays AB and AC subject to the fact that, at every bounce, the angle of incidence is equal to the angle of reflection. Prove that, regardless of the initial direction, the ball will bounce a total of at most nine times.

This contest is sponsored by the Mathematics Department. Open to all CSUN students. Winner gets \$10 or an equivalent prize. All complete and correct solutions get a certificate. Type and send your solution before February 2nd, 9:00PM to silvia.fernandez@csun.edu. All steps of the solution must be clearly justified. For rules, winners, solutions, and more information visit: www.csun.edu/math/probweek