

A Court of Inquiry

Al Lehn

Madison Area Technical College, retired

The change in the angle between a tangent to a circle and a given direction in the plane, as the point of tangency moves in fixed steps perpendicular to the given direction, is determined. The resulting formula is a function of the circle radius, the size of the step, and the distance of one of the points from a diameter parallel to the given direction. The problem is motivated by the intersection of the three-point line on a basketball court with the seam lines of the floor paneling. A group exercise for students to examine this problem is proposed.

Keywords: circle, tangent, basketball court, group exercise, trigonometry, calculus



Al Lehn is a retired mathematics instructor at Madison College, where he taught from August 1983 till May 2019. He taught courses ranging from basic mathematics to linear algebra and probability and statistics. With a BS from Purdue University and MS and PhD degrees in physics from the University of Wisconsin-Madison, he did postdoctoral work at the University of North Carolina and worked as a research engineer before joining the faculty at Madison College.