1046-Z1-918 Dale K Hathaway* (hathaway@olivet.edu), One University Avenue, Department of Mathematics, Olivet Nazarene University, Bourbonnais, IL 60914. The Continuous Birthday Problem.
The classic birthday problem uses calendar days as the time period for a match. What if instead of using calendar days any 24 hour period of time is used as the time frame? Two or more birthdays within the 24 hour period would be considered a match. A person born at 11:55 p.m. on January 1 would be within 24 hours of a person born at 3:38 a.m. on January 2, even though they have separate calendar day birthdays. This generalization of the birthday problem can be solved by taking an approach similar to the Calculus approach of using discrete rectangles to approximate the area under a continuous function. A continuous birthday match will be shown to be more likely than that of a classic birthday match. (Received September 12, 2008)

