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**Fostering mathematical curiosity: highlighting the mathematics.**

Math. Teach. (Reston) 96, No. 8, 574-579 (2003).

From the introduction: In [Math. Teach. (Reston) 95, No. 2, 126–130 (2002; ME 2002e.04183)] the first author discusses the idea of problem posing as a means of fostering students' mathematical curiosity. A mathematician colleague, after reading the article, commented that a significant amount of the mathematics in the discussion of the various problems and their solutions had been “left out” – and he was right. The author's primary intent in writing that article, however, was to illustrate “what it might mean to engage students in problem posing and how teachers might begin to create classroom environments that encourage, develop, and foster mathematical curiosity”, not to discuss in detail the mathematics underlying the solutions to the problems posed. The purposes of this follow-up article are to provide greater detail regarding the mathematics underlying the solutions to extensions of a problem posed in the original article and to continue the theme of fostering mathematical curiosity through problem posing. The mathematics involved in determining the solutions should be accessible to most students enrolled in geometry or intermediate algebra and trigonometry courses. It integrates important topics from algebra, geometry, and trigonometry. This article further illustrates the type of problem exploration that lies at the heart of mathematical practice – practice in which we teachers would like students to engage and that they need more opportunities to experience.

*Classification:* D50 G40 G60

*Keywords:* problem posing; geometry; equilateral triangles; triangles; area; trigonometry; ratio of areas; polynomials; problem solving strategies; quadrilaterals; problem extensions; generalization