

ZMATH 2015c.00592

Stephenson, Paul

Two unit fractions from one. II.

Math. Sch. (Leicester) 44, No. 1, 28-29 (2015).

From the text: In counting the different integral ‘tangent’ kites which fit round a circle of given integer radius we converted the problem into the equivalent one of counting the number of ways you can partition one unit fraction into two. Unfortunately, the method we devised to find this number required us to check each of the $(r + 1)$ to $(2r - 1)$ relevant cases. Here, by contrast, is Andrew Palfreyman’s method applied to our problem. For Part I see [the author, *ibid.* 43, No. 5, 24–25 (2014; ME 2015b.00616)].

Classification: F40 F60 G40

Keywords: partitioning a unit fraction; sum of two unit fractions; plane geometry; circles; tangential quadrilaterals; integral side length; integral radius; kites; right triangles; Egyptian fractions; divisor; prime factors; completing the rectangle