

1135-11-173 **Roger B. Nelsen*** (nelsen@lclark.edu), Lewis & Clark College, Portland, OR. *Alternative Proofs in Number Theory*.

Some time ago I was looking at several textbooks for the undergraduate number theory course. I was struck by how few illustrations were included in many of those textbooks. A number—specifically a positive integer—can represent many things: the cardinality of a set; the length of a line segment; or the area of a plane region. Such representations naturally lead to a variety of visual arguments for topics in elementary number theory. Since the undergraduate number theory course usually begins with properties of the positive integers, the texts should have more pictures. In this talk I will present some visual proofs useful in the study of perfect numbers. (Received August 07, 2017)