

2122. *Proposed by Shawn Godin, St. Joseph Scollard Hall, North Bay, Ontario.*

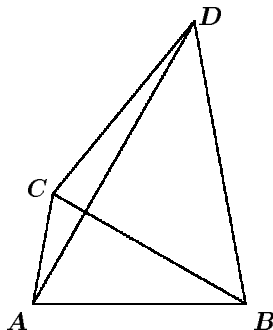
Little Sam is a unique child and his math marks show it. On four tests this year his scores out of 100 were all two-digit numbers made up of eight different non-zero digits. What's more, the average of these scores is the same as the average if each score is reversed (so 94 becomes 49, for example), and this average is an integer none of whose digits is equal to any of the digits in the scores. What is Sam's average?

2123. *Proposed by Sydney Bulman-Fleming and Edward T. H. Wang, Wilfrid Laurier University, Waterloo, Ontario.*

It is known (e.g., exercise 23, page 78 of Kenneth H. Rosen's *Elementary Number Theory and its Applications*, Third Edition) that every natural number greater than 6 is the sum of two relatively prime integers, each greater than 1. Find all natural numbers which can be expressed as the sum of three pairwise relatively prime integers, each greater than 1.

2124. *Proposed by Catherine Shevlin, Wallsend, England.*

Suppose that $ABCD$ is a quadrilateral with $\angle CDB = \angle CBD = 50^\circ$ and $\angle CAB = \angle ABD = \angle BCD$. Prove that $AD \perp BC$.



Mathematical Literacy

1. Who said: "To be able to read the great book of the universe, one must first understand its language, which is that of mathematics".
2. In referring to "the unreasonable effectiveness of mathematics in the natural sciences", who wrote: "The miracle of the appropriateness of the language of mathematics for the formulation of the laws of physics is a wonderful gift which we neither understand nor deserve".