Let $G$ and $H$ be two points in the interior of the hexagon such that $\angle AGB = \angle DHE = 120^\circ$. Prove that

$$AG + GB + GH + DH + HE \geq CF.$$ 

6. Let $p$ be an odd prime number. Find the number of subsets $A$ of the set $\{1, 2, \ldots, 2p\}$ such that
(i) $A$ has exactly $p$ elements, and
(ii) the sum of all the elements of $A$ is divisible by $p$.

Time Allowed: 4\frac{1}{2} \text{ hours.}

The solutions to these problems are on pp.69-76.

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Research Announcement

OPTIMAL APPROXIMABILITY OF SOLUTIONS OF SINGULARLY PERTURBED DIFFERENTIAL EQUATIONS

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Using the theory of $n$-widths, the approximability of solutions of singularly perturbed reaction-diffusion and convection-diffusion problems in one dimension is quantified. Full details appear in [1].

Reference


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