

Bergen County Math League

Calculators Permitted

Good Luck to You



Good Luck to All

Contest #3

2025-2026 12 minutes

Questions 1 & 2

- 3-1. If the volume of a cube in cubic meters is three times the surface area of the cube in square meters, find the length of an edge of the cube, in meters.
- 3-2. If i represents the imaginary unit, for what value of m are the numbers $1 - 2i$ and $-2 + mi$ equal to each other.

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Questions 3 & 4

- 3-3. If 100 more than the sum of n consecutive integers is equal to the sum of the next n consecutive integers, find the value of n .
- 3-4. The lengths of the sides of a triangle are 4, 13, and 15. Find the sine of the angle between the longest and shortest sides of the triangle.

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Questions 5 & 6

- 3-5. The real-valued function f is defined by $f(x) = x^2 + 7x + k$ and $f(k) = -16$. What is the value of $f(6)$?
- 3-6. Convex pentagon P 's smallest angle measures 38° . Excluding P 's largest and smallest angles, the degree-measure of each of P 's other angles is the average of the degree-measures of the two angles nearest to it in size. What is the degree-measure of P 's largest angle?