

Bergen County Math League

Calculators Permitted

Good Luck to You



Good Luck to All

Contest #1

2025-2026 12 minutes

Questions 1 & 2

- 1-1. If $x:y:z = 2:5:3$, what is the (simplified) value of $\frac{4x+3z}{6x+5y}$?
- 1-2. A rectangle with an area of 1 is inscribed in a circle of radius 1. What is the perimeter of this rectangle?

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Questions 3 & 4

- 1-3. For a positive integer n , define $f(n)$ as the exponent of the highest power of 5 which is a factor of n . For example, $f(10) = 1$.

What is the value of $f(250) + f(175) - f(250 \times 175)$?

- 1-4. What is the ordered pair of real numbers (a, b) for which $a + b = ab = \frac{a}{b}$?

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Questions 5 & 6

1-5. If $x + y = 1$, $x + z = 2$, and $y + z = 3$, what is the value of $x - y - z$?

1-6. A triangle has sides with lengths 5, 7, and 9. What is the length of its shortest median?