

Bergen County Math League

NO Calculators Permitted

Good Luck to You



Good Luck to All

Contest #2

2025-2026 12 minutes

Questions 1 & 2

- 2-1. In an isosceles trapezoid, the length of the longer base is equal to the sum of the lengths of one of the legs and the shorter base. Find the degree-measure of one of the acute angles of this trapezoid.
- 2-2. Express, in simplest form, the value of the quotient $\frac{(-3)^{85} + 84(-3)^{84}}{(-3)^{88}}$.

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Questions 3 & 4

- 2-3. How many of the positive integers less than 1000 use the digit 2 exactly twice in their decimal numeral (*i.e.*, base ten) representation?
- 2-4. A book weighs as much as $\frac{3}{4}$ of its weight plus $\frac{3}{4}$ of a pound. How many pounds does the book weigh?

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Questions 5 & 6

2-5. A and B have a and b cents, respectively. After A gives B as many cents as B has, and then B gives A twice as many cents as A then has, each has 18 cents. Find the ordered pair (a, b) .

2-6. Find all values of x for which $\left(\frac{x-1}{x+3}\right) \div \left(\frac{x-4}{x-2-\frac{3}{x}}\right)$ is undefined.