

# HIGH SCHOOL MATHEMATICS CONTESTS

Math League Press, P.O. Box 17, Tenafly, New Jersey 07670-0017

All official participants must take this contest at the same time.

**Contest Number 2** Any calculator without a QWERTY keyboard is allowed. Answers must be exact or have 4 (or more) significant digits, correctly rounded. **November 10, 2020**

Name \_\_\_\_\_ Teacher \_\_\_\_\_ Grade Level \_\_\_\_\_ Score \_\_\_\_\_

Time Limit: 30 minutes

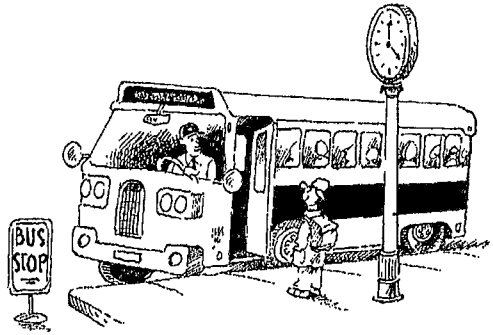
NEXT CONTEST: DEC. 8, 2020

Answer Column

2-1. What is the smallest perfect square that can be written as the sum of three different prime numbers?

2-1.

2-2. Gerry arrived at the bus stop  $x$  hours past noon. Dale arrived 4 hours later. Pat arrived at 5 P.M.,  $x$  hours after Dale. At what time did Gerry arrive at the bus stop? [Your answer must include an A.M. or a P.M.]



2-2.

2-3. For what value of  $x > 0$  does  $\frac{x^2 + 2021x + 2020}{x^2 - 2020x - 2021} = 2$ ?

2-3.

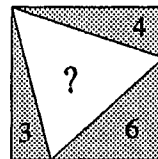
2-4. What is the greatest integer that always divides the difference of the squares of any two different positive odd integers?

2-4.

2-5. Of the positive integers between 1000 and 10 000 that are divisible by 8, how many have a hundreds digit of 5?

2-5.

2-6. A square is split into four triangles, and then three of the four triangles are shaded, as shown. If the areas of the shaded triangles are 3, 4, and 6, as shown, what is the area of the unshaded triangle?



2-6.

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