The American Mathematics Competition

The American Mathematics Competition is a series of challenging problem solving competitions for high school students. These exams provide an opportunity for students to work on their problem solving skills and develop a greater fluency with mathematical ideas from the high school curriculum. In addition, the AMC 10 and 12 serve as the first step towards the selection of the United States team for the International Mathematical Olympiad.

- AMC 10/12 Registration and standard shipping deadline 17 December 2011 (late registration available)
- AMC 10/12A exam date, 7 February 2012
- Website: http://amc.maa.org/
- State coordinator: Russell Brown, UK Mathematics, russell.brown@uky.edu, +1 859 257 3951, Website: http://www.math.uky.edu/~rbrown/amc/
- Contact for the AMC at EKU: Cheryll Crowe, cheryll.crowe@eku.edu, 859-622-1620, Eastern Kentucky University.
- Practice questions: http://www.artofproblemsolving.com/ Wiki/index.php/AMC_Problems_and_Solutions (This should be typed on one line and without spaces.)

SAMPLE QUESTIONS

Below are questions #1, 9 and 12 from the 2006 AMC 12B.

- 1. What is $(-1)^1 + (-1)^2 + \ldots + (-1)^{2006}$? (A) -2006 (B) -1 (C) 0 (D) 1 (E) 2006
- 2. How many even three-digit integers have the property that their digits, read left to right, are in strictly increasing order?

(A) 21 (B) 34 (C) 51 (D) 72 (E) 150

3. The parabola $y = ax^2 + bx + c$ has vertex (p, p) and y-intercept (0, -p), where $p \neq 0$. What is b?

(A) -p (B) 0 (C) 2 (D) 4 (E) p