Problem Set - 19 Jan 2024

PROBLEM 1 (2016 AMC 12B #3)

Let $x = -2016$. What is the value of $\Big|\ ||x| - x| - |x|\ \Big| - x$?

(A) -2016 **(B)** 0 **(C)** 2016 **(D)** 4032 **(E)** 6048

PROBLEM 2 (2011 AMC 10B #4)

LeRoy and Bernardo went on a week-long trip together and agreed to share the costs equally. Over the week, each of them paid for various joint expenses such as gasoline and car rental. At the end of the trip it turned out that LeRoy had paid A dollars and Bernardo had paid B dollars, where $A < B$. How many dollars must LeRoy give to Bernardo so that they share the costs equally?

(A) $\frac{A+B}{2}$ **(B)** $\frac{A-B}{2}$ **(C)** $\frac{B-A}{2}$ **(D)** $B-A$ **(E)** $A+B$

PROBLEM 3 (2012 AMC 10B #7)

For a science project, Sammy observed a chipmunk and a squirrel stashing acorns in holes. The chipmunk hid 3 acorns in each of the holes it dug. The squirrel hid 4 acorns in each of the holes it dug. They each hid the same number of acorns, although the squirrel needed 4 fewer holes. How many acorns did the chipmunk hide?

(A) 30 **(B)** 36 **(C)** 42 **(D)** 48 **(E)** 54

PROBLEM 4 (2014 AMC 12A #6)

The difference between a two-digit number and the number obtained by reversing its digits is 5 times the sum of the digits of either number. What is the sum of the two digit number and its reverse?

(A) 44 **(B)** 55 **(C)** 77 **(D)** 99 **(E)** 110

PROBLEM 5 (2013 UNCO MATH CONTEST II #11)

(a) Stages 1 and 2 each contain 1 tile. Stage 6 contains 8 tiles. If the pattern is continued, how many tiles will Stage 15 contain?

(b) What is the first Stage in which the number of tiles is a multiple of 2013?