

MASSACHUSETTS MATHEMATICS LEAGUE
CONTEST 1 - OCTOBER 2010
ROUND 5 INEQUALITIES & ABSOLUTE VALUE

ANSWERS

A) _____

B) _____

C) _____

***** NO CALCULATORS ON THIS ROUND *****

- A) Let N be the solution of $x + 2011 = |x|$.
Compute the largest integer less than or equal to N .

- B) Solve for x : $|x^2 - 3| < 2$

- C) For how many lattice points in the region $|x| + |y| \leq 2010$ is it true that both $|x|$ and $|y|$ are prime factors of 2010?

Recall: $P(x, y)$ is a lattice point if and only if x and y are integers.