

**MASSACHUSETTS MATHEMATICS LEAGUE
CONTEST 1 - OCTOBER 2006
ROUND 5 INEQUALITIES & ABSOLUTE VALUE**

ANSWERS

A) _____

B) _____

C) _____

A) It cost a publishing company \$250 to setup for the printing of a brochure. After that, the cost of printing, materials, etc. is 19¢ per brochure. If the publisher sells the brochure for 40¢ per copy, how many copies minimum must be sold before any profit is realized?

B) How many integer solutions are there that satisfy both $|2x - 1| \leq 23$ and $|x + 1| > 4$?

C) Find the domain of the real-valued function defined by $f(x) = \sqrt{\frac{x+4}{12-4x-x^2}}$.