

**MASSACHUSETTS MATHEMATICS LEAGUE
CONTEST 4 - JANUARY 2009
ROUND 4 ALG 2: QUADRATIC EQUATIONS**

ANSWERS

A) _____

B) _____

C) $y =$ _____

- A) It is known that x is positive and that A and B have opposite signs.
Solve for x in terms of A and B :

$$x^2 - 3A^2B^2 = 2ABx$$

- B) The quadratic expression $Ax^2 - 4x + B$ has a value of 9 when $x = -3$
and a value of -7 when $x = 5$.
Determine the minimum value of this expression.

- C) Given: $3x^2 - 6x + xy + 4y - 2y^2 = 0$
Determine all possible values of y in terms of x .