

MASSACHUSETTS MATHEMATICS LEAGUE  
CONTEST 4 - JANUARY 2012  
ROUND 4 ALG 2: QUADRATIC EQUATIONS

ANSWERS

A) \_\_\_\_\_

B) \_\_\_\_\_

C) \_\_\_\_\_

A)  $A$  is a positive root of  $x^2 - 3Ax + B = 0$ . Compute  $A$ , if  $B = 72$ .

B) Solve for  $x$ .

$$\frac{x+2}{x-2} - \frac{x-3}{x+3} = \frac{7}{5}$$

C) Find the sum of all integral values of  $m$  for which the equation  $9 + 2mx = 4x - x^2$  will have no real roots.