

**MASSACHUSETTS MATHEMATICS LEAGUE  
CONTEST 2 - NOVEMBER 2006  
ROUND 4 ALG 1: FACTORING AND ITS APPLICATIONS**

**ANSWERS**

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

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

C)  $x =$  \_\_\_\_\_

A) Factor completely  $(a^2 - 3a + 1)^2 - 1$

B) Factor completely:  $(x + 1)^3 - (x + 1)^2 - 9(x + 1) + 9$

C) Given:  $x(x + 2y) = 1$  and  $x < 0$ . Solve for  $x$  in terms of  $y$ .