

**MASSACHUSETTS MATHEMATICS LEAGUE**  
**CONTEST 2 - NOVEMBER 2007**  
**ROUND 4 ALG 1: FACTORING AND ITS APPLICATIONS**

**ANSWERS**

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

B) ( \_\_\_\_\_ , \_\_\_\_\_ )

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

A) Solve for  $x$ .  $\frac{3}{(x-1)^2} + \frac{4}{(x-1)} + 1 = 0$

B) The difference  $\sqrt{3} - 17$  may be expressed as the product  $(\sqrt{3} - A)(\sqrt{3} - B)$ , where  $A$  and  $B$  are integers and  $A > B$ . Determine the ordered pair  $(A, B)$

C) Solve for  $x$ .  $\frac{2x}{x^2 + 2x - 8} + \frac{4}{x^2 + 5x + 4} - \frac{x+3}{x^2 - x - 2} = 0$