

**MASSACHUSETTS MATHEMATICS LEAGUE  
CONTEST 4 - JANUARY 2010 ANSWERS**

**Round 1 Analytic Geometry: Anything**

A)  $(\pm\sqrt{2}, 0)$                       B)  $2\sqrt{5}$                       C)  $\left(\frac{19}{9}, \frac{1}{3}\right)$

**Round 2 Alg1: Factoring**

A)  $\frac{2x-3}{5}$                       B) 35                      C) 3, 6

**Round 3 Trig: Equations**

A)  $\frac{\pi}{2}$                       B)  $-\frac{\sqrt{6}}{3}$                       C)  $240^\circ$

**Round 4 Alg 2: Quadratic Equations**

A)  $\frac{45}{4}$  or 11.25                      B) -1, 6                      C)  $-\frac{7}{3}$

**Round 5 Geometry: Similarity**

A) 8                      B) 1 : 1                      C) 1 : 8 : 16

**Round 6 Alg 1: Anything**

A) 2                      B)  $\frac{2}{a(a+b)}$                       C) 4 minutes 8 seconds

**Team Round**

A)  $10\sqrt{2}$                       D) 42  
B) (5, 7, 2) only                      E) 11 : 24  
C) 12                      F) 200 yards