

**MASSACHUSETTS MATHEMATICS LEAGUE  
CONTEST 4 - JANUARY 2007 ANSWERS**

**Round 1 Analytic Geometry: Anything**

- A)  $\frac{4}{5}$  or 0.8                      B)  $\left(\frac{2}{5}, \frac{-12}{5}, 2\right)$                       C) 27.3%

**Round 2 Alg1: Factoring**

- A) (42, 41)                      B) 80                      C) 4, 23

**Round 3 Trig: Equations**

- A)  $120^\circ$ ,  $240^\circ$ ,  $180^\circ$                       B)  $60^\circ$ ,  $240^\circ$ ,  $300^\circ$                       C) 1003

**Round 4 Alg 2: Quadratic Equations**

- A) (5, 11)                      B) b                      C)  $5\frac{11}{15}$  or 5.73 oz.

**Round 5 Geometry: Similarity**

- A) 4.5                      B)  $6\frac{2}{3}$                       C) 4 : 9

**Round 6 Alg 1: Anything**

- A) 12                      B) -10                      C) -120

**Team Round**

- A)  $5x + 2y = 39$                       B) 12                      C) 4
- D) -2                      E)  $h = 2a(a + 1)$                       F) 66