

**MASSACHUSETTS MATHEMATICS LEAGUE
CONTEST 1 - OCTOBER 2009 ANSWERS**

Round 1 Geometry Volumes and Surfaces

- A) 500 : 81 B) 80 units C) 4 inches³

Round 2 Pythagorean Relations

- A) 3 : 8 B) $\left(\frac{15}{2}, \frac{9}{2}\right)$ C) 154

Round 3 Linear Equations

- A) $3/2$ (or 1.5) B) -2 C) 18

Round 4 Fraction & Mixed numbers

- A) (6, 6, 7) B) 7.1 C) $\frac{7}{5}$ (or 1.4)

Round 5 Absolute value & Inequalities

- A) $x < -3, -2 < x < 2, x > 3$ B) (18, 13) C) 143

Round 6 Evaluations

- A) $\frac{1}{10}$ B) 30 C) $\frac{55}{4}$ $\left(13\frac{3}{4} \text{ or } 13.75\right)$

Team Round [Calculators allowed]

- A) 10 : 53 D) 6 miles

- B) (51, 52, 53) E) 125

- C) (671, 319) F) $\left(58\frac{2}{3}, 70\frac{2}{3}\right)$