MASSACHUSETTS MATHEMATICS LEAGUE
CONTEST 2 - NOVEMBER 2010 ANSWERS

Round 1 Algebra 2: Complex Numbers (No Trig)

A) −1 B) (−2, 5) C) 8

Round 2 Algebra 1: Anything

A) 1056 B) 63 C) (A, $22.80)

Round 3 Plane Geometry: Area of Rectilinear Figures

A) 7 : 9 B) 600 C) 288

Round 4 Algebra 1: Factoring and its Applications

A) 42 B) $308x^2y^3z$ C) $(2A + 3B − 4W)(2A + 3B + 4W)$

Round 5 Trig: Functions of Special Angles

A) 0 B) −1 C) $\dfrac{\sqrt{2} − \sqrt{6}}{4}$

Round 6 Plane Geometry: Angles, Triangles and Parallels

A) 120 B) (9, 2) C) 78

Team Round

A) $\left(\dfrac{4}{5}, \dfrac{3}{5} \right)$ D) (1, 3, 4, 4)

B) 4 or $\dfrac{25}{16}$ E) (5, 4)

C) $\left(−\dfrac{9}{16}, −\dfrac{21}{4} \right)$ F) 72