MASSACHUSETTS MATHEMATICS LEAGUE
CONTEST 6 - MARCH 2016 ANSWERS

Round 1 Algebra 2: Simultaneous Equations and Determinants

A) $\left(-\dfrac{2}{3}, \dfrac{5}{3}\right)$ B) -6 C) 5, 11, 23, 29 (in any order)

Round 2 Algebra 1: Exponents and Radicals

A) $3, -1$ B) $\dfrac{9}{2}$ C) $\{6, 8, 12\}$

Round 3 Trigonometry: Anything

A) $(3, 225)$ B) $(0,0), \left(\dfrac{3}{10}, \dfrac{9}{10}\right)$ C) $100°, 260°$

Round 4 Algebra 1: Anything

A) 258   B) 8   C) $(5,3)$

Round 5 Plane Geometry: Anything

A) 12   B) 1.5   C) 432

Round 6 Algebra 2: Probability and the Binomial Theorem

A) $\dfrac{3}{5}$ (or 3 : 5)   B) $70x^8$ C) $\dfrac{19}{50}$ (or 0.38 or 38%)

Team Round

A) $(77, 29, 115)$ D) 6688 mm^2

B) $\pm\dfrac{1}{2}$ E) 2.16

C) $\left(100, 400\sqrt{3}\right)$ F) $2, \dfrac{1}{2}$