

**MASSACHUSETTS MATHEMATICS LEAGUE
CONTEST 6 - MARCH 2017 ANSWERS**

Round 1 Algebra 2: Simultaneous Equations and Determinants

- A) $(-1, 1, 505)$ B) -23.2 C) 2.5

Round 2 Algebra 1: Exponents and Radicals

- A) $-1, 1, 2$ B) 5 only C) $40, 130$

Round 3 Trigonometry: Anything

- A) $20,000$ feet B) $\frac{\pi}{3}, \frac{2\pi}{3}$ C) 4

Round 4 Algebra 1: Anything

- A) $(1, 6), (3, 5)$ B) $(1008, 1009)$ C) 54

Round 5 Plane Geometry: Anything

- A) 8 B) 21 C) 972

Round 6 Algebra 2: Probability and the Binomial Theorem

- A) 0 (or none) B) $\frac{1}{4}$ C) $\pm 2, \pm \frac{1}{2}$

Team Round

- A) $(-2, 1, 6)$ D) 159

- B) $\frac{\sqrt{1+\sqrt{2}}}{2}$ E) 22

- C) $(\pm 2, \pm 2\sqrt{3})$ - 2 ordered pairs F) $\frac{5}{11}$