MASSACHUSETTS MATHEMATICS LEAGUE
CONTEST 6 – MARCH 2015 ANSWERS

Round 1 Alg 2: Simultaneous Equations and Determinants

A) -14

B) $\dfrac{19}{12}$

C) 1, 2 , 4, 7

Round 2 Alg 1: Exponents and Radicals

A) 4

B) 3721

C) $(-4,-1),\ (-8,-7)$

Round 3 Trigonometry: Anything

A) 420

B) $\dfrac{5\pi}{6} < x < \dfrac{7\pi}{6}$ or $\left(\dfrac{5\pi}{6},\dfrac{7\pi}{6}\right)$

C) 16

Round 4 Alg 1: Anything

A) 65

B) $\left(-\dfrac{1}{2},2,4\right)$

C) 6

Round 5 Plane Geometry: Anything

A) 140

B) 12

C) $\dfrac{5}{2}\sqrt{17}$

Round 6 Alg 2: Probability and the Binomial Theorem

A) $\dfrac{15}{32}$

B) -6

C) $\left(\dfrac{1}{16},\dfrac{5}{128}\right)$

Team Round

A) -4

D) $(1,-1,2)$

B) -1 and 19

E) 22 and 34

C) $\sqrt{13}$

F) $\dfrac{32}{495}$