

**MASSACHUSETTS MATHEMATICS LEAGUE
CONTEST 6 – MARCH 2011
ROUND 3 TRIGONOMETRY: ANYTHING**

ANSWERS

A) _____

B) _____

C) _____

***** NO CALCULATORS ON THIS ROUND *****

- A) Let P denote the radian equivalent of π° .
Let Q denote the degree equivalent of π radians.
Find the numerical product of P and Q .

- B) Compute all possible values of x over $0^\circ \leq x < 360^\circ$ for which

$$2\sin(x) + 3\cot(x) = 0$$

- C) Find the four 4th roots of $-8 + 8\sqrt{3}i$. Express your answers in $a + bi$ form.