

**MASSACHUSETTS MATHEMATICS LEAGUE
CONTEST 6 - MARCH 2009
ROUND 2 ALG1: EXPONENTS AND RADICALS**

ANSWERS

A) _____

B) _____

C) _____

A) Solve for x . $8^{x-1} = 2 \cdot 4^{x+1}$

B) Find all possible values of x for which $3x^{5/3} + 4x^{2/3} = 15x^{-1/3}$

Note: $x^{-1/3} = \frac{1}{\sqrt[3]{x}}$

C) Solve for x : $\sqrt{48x^2} - \sqrt{\frac{16}{3}} - 12^{\frac{1}{2}} = 0$