

MASSACHUSETTS MATHEMATICS LEAGUE

MARCH 2004

ROUND 2: EXPONENTS & RADICALS

ANSWERS

A) _____

B) _____

C) _____

A) Find the exact value of x : $\sqrt{4 + \frac{1}{4} + \frac{4}{9}} = 2 + \frac{1}{2} + \frac{x}{3}$

B) Convert to simplified radical form: $\frac{\sqrt{6} - \sqrt{2}}{\sqrt{3} + 1} + \frac{2\sqrt{3}}{\sqrt{2}}$

C) Solve for x . $8^{\frac{x+2}{x}} = 16^{\frac{x+2}{4}}$