

MASSACHUSETTS MATHEMATICS LEAGUE
MARCH 2005
ROUND 2: ALGEBRA ONE RATIONAL EXPONENTS/RADICALS
ANSWERS

A) _____

B) _____

C) _____

A) Find the value of x if $\sqrt{1 + \frac{4}{9} + \frac{9}{16}} = 1 + \frac{2}{3} + \frac{x}{4}$

B) Simplify $(1 + 2\sqrt{3})^2 + \sqrt{\frac{4}{27}} - (\sqrt{3})^3 + \frac{7}{3\sqrt{3}}$

C) Simplify $\frac{3^{n+4} + 3 \cdot 3^{n+1}}{3^{n+6}}$ Express your answer as a simplified fraction.