

MASSACHUSETTS MATHEMATICS LEAGUE
DECEMBER 2003
ROUND 4: LOGS & EXPONENTIALS
NON-CALCULATOR

ANSWERS

A) _____

B) _____

C) _____

A) Solve for x : $\log_9 x = \log_{16} 320 - \log_{16} 5$

B) Solve for x : $\left(\frac{1}{4}\right)^{x-x^2} = 8^{2-x}$

C) Solve for x : $\log_2(-2x-1) - \log_{\sqrt{2}} 2 + \log_2(-x+3) = 0$