

MASSACHUSETTS MATHEMATICS LEAGUE
MARCH 2004
ROUND 1: SIM. EQUATIONS & DET.

ANSWERS

A) _____

B) _____

C) _____

A) A rectangular cafeteria has a perimeter of 800 feet, and an area of 30, 000 square feet. Find the number of feet in the length and in the width of the cafeteria.

B) Lia is offered two different salary options to sell health club memberships. Plan A is: \$500 weekly in addition to 6% of her sales; while Plan B is: \$700 weekly in addition to 1% of her sales. Lia realized that she could get the same salary for a week under both plans. What is that salary?

C) Solve for x: $\begin{vmatrix} 1 & -3 & x \\ x & 4 & -1 \\ -2 & 4 & 1 \end{vmatrix} = 40$