MASSACHUSETTS MATHEMATICS LEAGUE
CONTEST 1 - OCTOBER 2008
ROUND 3 ALG 1: LINEAR EQUATIONS

ANSWERS

A) $x =$ _____

B) _____

C) (_____ , _____)

A) Solve the following equation for x. $\frac{1}{3} + 0.1\overline{x} = 0.5$

Note: $0.1\overline{x}$ represents a repeating decimal, where x is the repeating digit.

B) In a club with 120 members, there were $66\frac{2}{3}\%$ more members present than members who were absent. If two-thirds of the members constitute a quorum, how many additional members would have been necessary to attain a quorum?

C) All points (x, y) that satisfy $\begin{cases} x = 1 - 2t \\ y = \frac{t}{2} + 1 \end{cases}$ lie on a straight line which can be written in the form $x + ny = c$ for some integer constants n and c. Compute the ordered pair (n, c)