MASSACHUSETTS MATHEMATICS LEAGUE
CONTEST 3 - DECEMBER 2010
ROUND 2 ARITHMETIC/NUMBER THEORY

ANSWERS

A) _____

B) _____ (4)

C) $P =$ _____

**** NO CALCULATORS ON THIS ROUND ****

A) Find the largest prime factor of 7659.

B) Change $2144_{(7)}$ to an equivalent number is base 4.

C) 42875 is written in the form $(a+b)^n \cdot (a-b)^n$, where a, b and n are positive integers and $n > 1$. Compute the <u>largest</u> possible value of the <u>product</u> abn.