

MASSACHUSETTS MATHEMATICS LEAGUE
CONTEST 3 - DECEMBER 2008
ROUND 5 ALG 1: RATIO, PROPORTION OR VARIATION

ANSWERS

A) _____

B) _____

C) _____

A) If $\begin{cases} y = 10 - 3t \\ x = 4t + 1 \end{cases}$, then compute $\frac{y}{t}$ when $x = -3$

B) A varies directly as the square root of B and inversely as the cube of C .
When $B = 9$ and $C = 2$, the value of A is 36. Find the value of B when $A = 8$ and $C = 4$.

C) Given $\frac{z}{x+y} = 2$ and $\frac{y}{x+z} = 3$, compute the numerical value of $\frac{z}{y+z}$.