

**MASSACHUSETTS MATHEMATICS LEAGUE  
CONTEST 5 – FEBRUARY 2008 SOLUTION KEY**

**Team Round – continued**

$$\text{F) } \frac{Mn + \frac{n(n+1)}{2}}{n} = A \rightarrow M + \frac{n+1}{2} = A \rightarrow 2M + n + 1 = 2A$$

$$M : A = 2 : 3 \rightarrow 2A = 3M \text{ Substituting, } 2M + n + 1 = 3M \rightarrow n = M - 1$$

$$n > 1,000,000 \rightarrow M > 1,000,001 \rightarrow \min M = \underline{\underline{1,000,002}}$$