

**MASSACHUSETTS MATHEMATICS LEAGUE
CONTEST 5 - FEBRUARY 2011
ROUND 4 ALG 1: WORD PROBLEMS**

ANSWERS

A) _____ kg

B) $x =$ _____

C) _____ days

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

A) At a candy store, a mixture of red and black licorice is $\frac{1}{4}$ black licorice. If 4 kg of black licorice is added to this mixture, the new mixture is then only $\frac{1}{3}$ black. Compute the total weight (in kg) of the original mixture.

B) Given: y varies inversely as the square root of x . When $y = 4$, $x = 25$. Find x , when $y = 100$.

C) Nine house painters working at a constant rate can complete a job in 7 days. Compute how many days it would take a new group of ten painters (working at the same rate as the previous painters) to complete the job, if four of these ten painters were not on the job until the 4th day?