MASSACHUSETTS MATHEMATICS LEAGUE
DECEMBER 2005
ROUND 5 ALG 1: RATIO PROPORTION VARIATION

ANSWERS

A)_____

B)_____

C)_____pm

A) The power in an electric circuit values jointly as the resistance and as the square of the current. If the current is halved, what change must be made to the resistance if the power is to remain the same?

B) Given $\dfrac{a + 3b + 5c}{a} = 18$ and $\dfrac{7c}{4b} = \dfrac{35}{12}$ find $a : b : c$ as ratios of relatively prime integers

C) Fifteen hens could lay 25 eggs in 3 days. How many hens should the farmer start with if he wants 600 eggs in 10 days but will sell half his hens after 5 days?