MASSACHUSETTS MATHEMATICS LEAGUE
CONTEST 1 - OCTOBER 2007
ROUND 2 PYTHAGOREAN RELATIONS IN RECTILINEAR FIGURES

ANSWERS

A) _____

B) _____

C) _____

A) The hypotenuse and long leg of a right triangle have lengths $11\sqrt{3}$ and $7\sqrt{7}$ respectively. Compute the length of the short leg.

B) Compute the distance between the bisectors of a pair of opposite angles in a 5 x 12 rectangle.

C) In right ΔABC, $AC = 28$, $BC = 21$, $\overline{AC} \perp \overline{BC}$ and $\dfrac{\text{Area}(\Delta BCD)}{\text{Area}(\Delta ACD)} = \dfrac{3}{4}$. Compute CD.