

MASSACHUSETTS MATHEMATICS LEAGUE
CONTEST 1 - OCTOBER 2006
ROUND 2 PYTHAGOREAN RELATIONS IN RECTILINEAR FIGURES

ANSWERS

A) _____

B) _____

C) _____

A) The diagonal of a rectangle with integer dimensions is 25. List all possible perimeters of this rectangle.

B) A right triangle has legs of length 20 and 21. Find the exact length of the perpendicular from the vertex of the right angle to the hypotenuse. If necessary, express your answer in simplified radical form.

C) The area of a trapezoid with bases of lengths 10 and 25 is 294. Its diagonals are perpendicular and have integer length. Determine the length of each diagonal.