MASSACHUSETTS MATHEMATICS LEAGUE
CONTEST 2 - NOVEMBER 2010
ROUND 3 PLANE GEOMETRY: AREAS OF RECTILINEAR FIGURES

ANSWERS

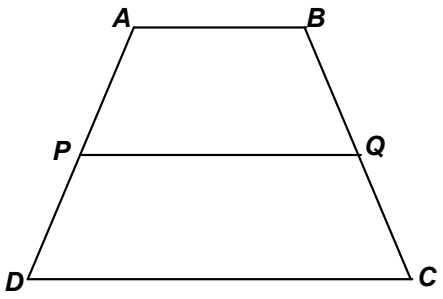
A) _____ : _____

B) _____ sq. units

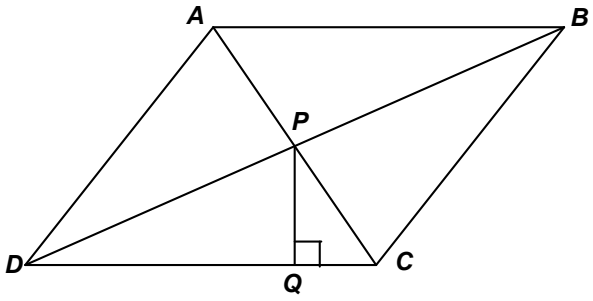
C) _____

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

A) $\overline{PQ}$ is a median in trapezoid $ABCD$.
$AB = 12$ and $DC = 20$.
Compute the ratio of the area of trapezoid $ABQP$ to the area of trapezoid $PQCD$.



B) The perimeter of rhombus $ABCD$ is 100 units.
If $PQ = 12$ units and $QC = 9$ units, compute the area of rhombus $ABCD$.



C) $ABCD$ is a square, $\overline{AB}$ is extended to F, $\overline{DF}$ intersects $\overline{BC}$ at E, $BE : EC = 1 : 2$ and the area of ΔBEF is 24.
Compute the area of $ABCD$.