

MASSACHUSETTS MATHEMATICS LEAGUE
CONTEST 2 - NOVEMBER 2007
ROUND 3 PLANE GEOMETRY: AREAS OF RECTILINEAR FIGURES

ANSWERS

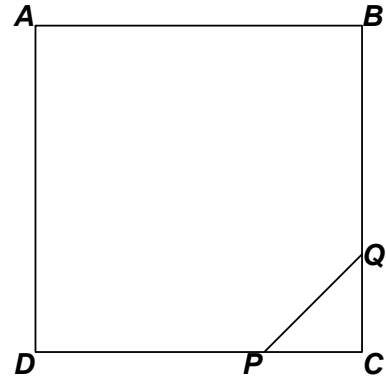
A) _____

B) _____

C) _____

- A) A right triangle has an area of 60 and its legs have lengths in a 2 : 3 ratio.
Compute the length of the hypotenuse.

- B) In square $ABCD$, $AB = 6$, $PC = QC$ and
 $\frac{\text{Area}(PQC)}{\text{Area}(PDABQ)} = \frac{1}{5}$
 P and Q lie on \overline{DC} and \overline{BC} respectively.
Compute PQ .



- C) Compute the area of the region bounded by $\begin{cases} y = |x-1| + |x-2| + |x-4| \\ x = 0 \\ x = 8 \\ y = 0 \end{cases}$