

MASSACHUSETTS MATHEMATICS LEAGUE
CONTEST 2 - NOVEMBER 2015
ROUND 3 PLANE GEOMETRY: AREAS OF RECTILINEAR FIGURES

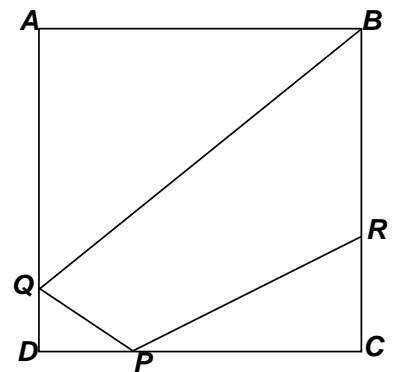
ANSWERS

A) _____

B) _____

C) _____

- A) Given: $ABCD$ is a square, $QP = RC = 5$, $DP = 4$, $PR = 13$
 Compute the area of quadrilateral $BRPQ$.



- B) In square $ABCD$, M is the midpoint of \overline{BC} and T is a trisection point of \overline{AB} .
 Compute the largest possible area of $\triangle TDM$, if $AD = 6$.

- C) $\triangle ABC$ is equilateral with side 6. $\overline{DE} \parallel \overline{BC}$
 M and N are midpoints of \overline{DE} and \overline{BC} , respectively.
 If the areas of $\triangle ADE$, trapezoid $DBNM$ and trapezoid $ECNM$ are equal, compute MN .

