

MASSACHUSETTS MATHEMATICS LEAGUE
CONTEST 2 - NOVEMBER 2009
ROUND 3 PLANE GEOMETRY: AREAS OF RECTILINEAR FIGURES

***** NO CALCULATORS IN THIS ROUND *****

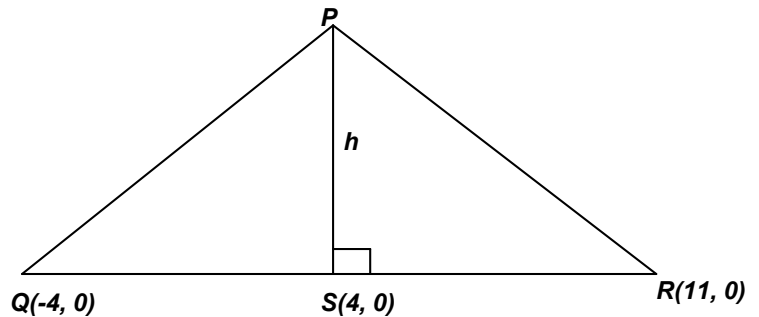
ANSWERS

A) _____ units²

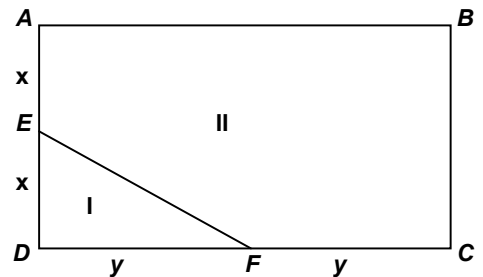
B) _____ units²

C) _____ units

- A) The area of $\triangle PQR$ is 45 square units.
 The areas of $\triangle PQS$ and $\triangle PSR$ are unequal.
 Determine the smaller of the two areas.



- B) Rectangle $ABCD$ has an area of 500 square units.
 E and F are midpoints of two adjacent sides.
 Determine the area of the larger of the two regions
 inside $ABCD$ created by \overline{EF} .



- C) Given: quadrilateral $ABCD$ with perpendicular diagonals and
 $AB = 13$, $BC = 15$, $BD = 52$, $AC = 14$
 To the nearest integer, what is the perimeter of $\triangle ADE$?

