MASSACHUSETTS MATHEMATICS LEAGUE
CONTEST 5 - FEBRUARY 2012
ROUND 5 PLANE GEOMETRY: CIRCLES

ANSWERS

A) _____

B) _____

C) _____

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

A) Four congruent circles are inscribed in a square. If the circumference of each is 12π, compute the area of the circle circumscribed about this square?

B) Point P is in the exterior of circle O.
Q is the point on circle O closest to P.
R is the point on circle O farthest from P.
If $PQ = 4$ and $PR = 20$, compute the length of a tangent to circle O from point P.

C) Circle P with radius 1 is tangent to circle Q with radius 3 at point T.
Diameter $\overline{RS}$ is perpendicular to the line of centers at point Q. $\overleftrightarrow{PR}$ intersects the circles at points V and W.
Compute VW.