MASSACHUSETTS MATHEMATICS LEAGUE
FEBRUARY 2004
ROUND 5: GEOMETRY CIRCLES
NON-CALCULATOR

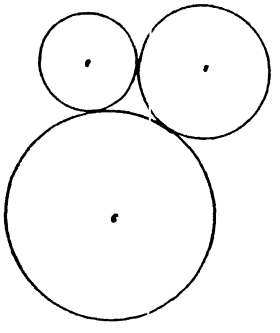
ANSWERS

A)_____

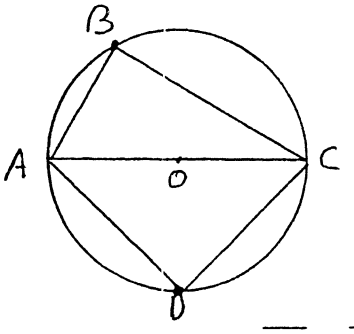
B)_____

C)_____

A) Three circles of areas π, 4π, *and* 9π are drawn tangent to each other. Calculate the area of the triangle formed by connecting the centers of the three circles.



B) In the figure, $\overline{AC}$ is a diameter of circle O, $\overset{\frown}{AB} = \frac{1}{2}\overset{\frown}{BC}$, D is the midpoint of $\overset{\frown}{AC}$. Find the value of BC/AD in simplified radical form.



C) In circle O, $\overline{CD} \perp \overline{AB}$, CE = 5, CD = 14, and the ratio of AE to AB is 1 to 6. The area of circle O is $k\pi$. What is the value of k?