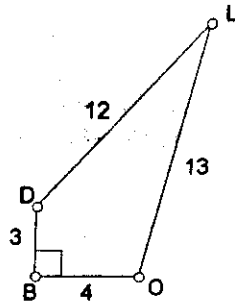


GEOMETRY TEAM TEST

QUESTION 1

Plant
MARCH '97

What is the area of quadrilateral BOLD?

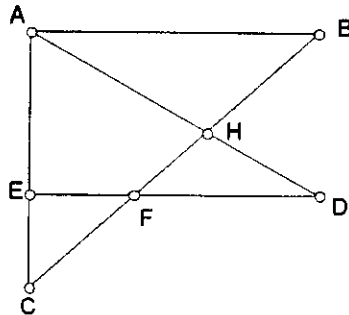


GEOMETRY TEAM TEST

QUESTION 2

MARCH

Find the value of $x + y$ if $\angle EAB = 90^\circ$, $\angle AED = 90^\circ$, $\angle ABC = 45^\circ$, $\angle EDA = 30^\circ$, $\angle BHD = x^\circ$, and $\angle HFE = y^\circ$.



GEOMETRY TEAM TEST

QUESTION 3

MARCH

The equation of a circle is $x^2 + y^2 + 6x + 4y - 12 = 0$. If the center of this circle is (h, k) and the radius is r , find $h^2 + k^2 - r^2$.

GEOMETRY TEAM TEST

QUESTION 4

MARCH

A wedge of cheese is cut from a cylindrical block with a height of 10 inches and a diameter of 12 inches. The base of the wedge consists of a sector of the circular base with a 60° central angle. Find the volume of the wedge of cheese. Leave answer in terms of π .

GEOMETRY TEAM TEST

QUESTION 5

MARCH

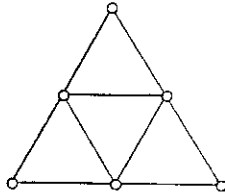
Find the percent of increase in the area of a circular pizza if the radius is increased from nine inches to ten inches. Express your answer to the nearest tenth of a %.

GEOMETRY TEAM TEST

QUESTION 6

MARCH

An equilateral triangle is formed from four equilateral triangles as shown. If the area of one small triangle is $25\sqrt{3}$, find the perimeter of the large triangle.

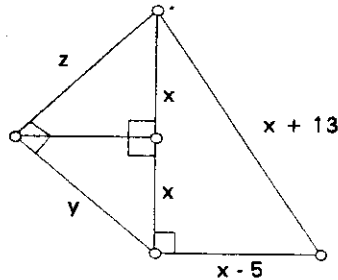


GEOMETRY TEAM TEST

QUESTION 7

MARCH

Find the value of $x + y + z$.



GEOMETRY TEAM TEST

QUESTION 8

MARCH

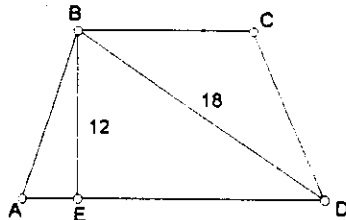
What is the radius of a circular region whose numerical value of its area equals the numerical value of one-half of its circumference?

GEOMETRY TEAM TEST

QUESTION 9

MARCH

Given isosceles trapezoid $ABCD$ with bases \overline{AD} and \overline{BC} , $BD = 18$, and altitude $BE = 12$, find the area of $ABCD$.



GEOMETRY TEAM TEST

QUESTION 10

MARCH

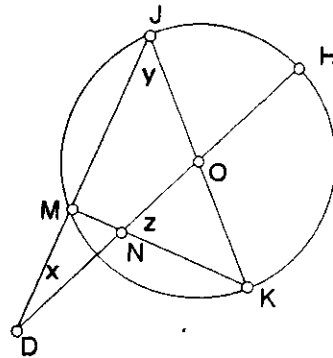
A right triangle has a hypotenuse of 6 and a perimeter of 14. Find the area of this triangle.

GEOMETRY TEAM TEST

QUESTION 11

MARCH

Given circle O with $\angle JOH = 68^\circ$, and $\angle JKM = 40^\circ$. Find the sum of angles x , y and z .



GEOMETRY TEAM TEST

QUESTION 12

MARCH

A cone has radius x and height y . A cylinder with radius $2x$ has the same volume as the cone. What is the height of the cylinder in terms of y ?

GEOMETRY TEAM TEST

QUESTION 13

MARCH

If one side of a triangle is 19 and the perimeter is 95, what is the maximum possible area of the triangle? Round your answer to the nearest integer.

GEOMETRY TEAM TEST

QUESTION 14

MARCH

What is the maximum number of points of intersection when two circles and three straight lines intersect each other? Assume that no figure coincides with another.

GEOMETRY TEAM TEST

QUESTION 15

MARCH

What is the area of a regular hexagon having a radius of $6\sqrt{3}$?