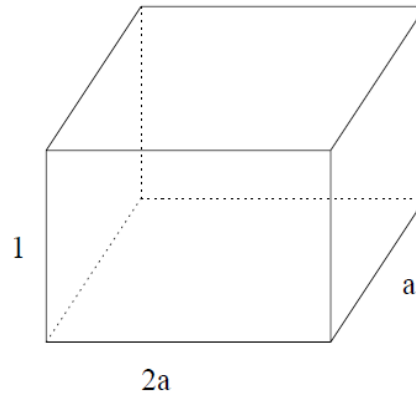


PENGAYAAN MATEMATIKA

SOAL-SOAL GEOMETRI 3

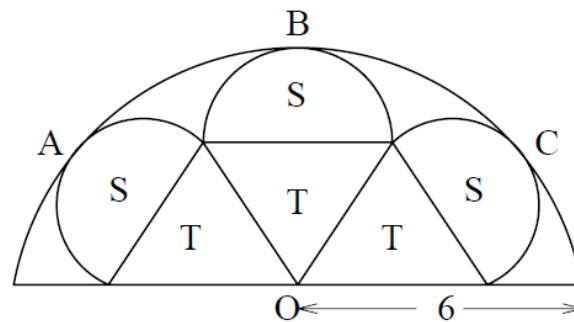
1. COMC, 1998

A rectangular closed box (shown) with dimensions a , $2a$ and 1 has a surface area of 54 , where a is an integer. Determine the volume of the box.



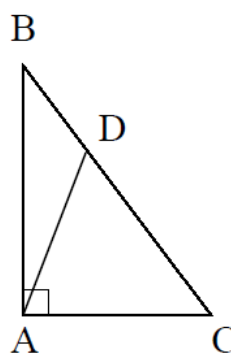
2. COMC, 1998

In the figure, each region T represents an equilateral triangle and each region S a semicircle. The complete figure is a semicircle of radius 6 with its centre O . The three smaller semicircles touch the large semicircle at points A , B and C . What is the radius of a semicircle S ?



3. COMC. 1998

The lengths of the sides of triangle ABC are 60 , 80 and 100 with $\angle A = 90^\circ$. The line AD divides triangle ABC into two triangles of equal perimeter. Calculate the length of AD .



4. COMC, 1998

Triangle ABC has its sides determined in the following way: side AB by line $3x - 2y + 3 = 0$; side BC by line $x + y - 14 = 0$; and side AC by line $y = 3$. If the point P is chosen so that $PA = PB = PC$, determine the equation of the line containing A and P .

5. COMC, 1998

$ABCD$ is a rectangle and lines DX , DY and XY are drawn where X is on AB and Y is on BC . The area of triangle AXD is 5, the area of triangle BXY is 4 and the area of triangle CYD is 3. Determine the area of triangle DXY .

