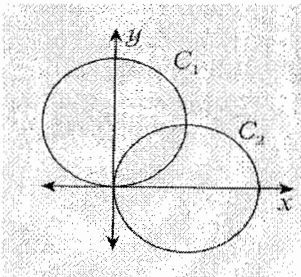


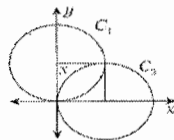
MATH PROBLEM OF THE MONTH (March)

Circle, C_1 has centre $(0,2)$ with radius 2 and circle C_2 , has centre $(2,0)$ with radius 2. The circles overlap in the first quadrant. Find the exact area of the overlap.



7. $2\pi - 4$ square units. First, construct the square, which has area 4 square units. Let x represent the difference between the area of the square and that of the quarter circle with radius 2. This gives $x = 4 - \pi$. Therefore, the area of the overlap is the area of the square minus two regions of area x , which results in the overlap area being

$$4 - 2(4 - \pi) = 4 - 8 + 2\pi = 2\pi - 4 \text{ square units.}$$



\$10 prize for the first correct solution. If interested pick up a copy of the problem from the receptionist and return it to reception when done. Deadline for submission—Mon. Mar. 20 @ 8:40 am