



# Problem of the Week

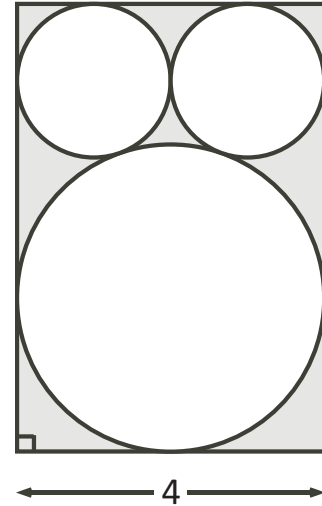
## Problem E

### This Picture Looks Like ...

The shape of the head and ears of a famous mouse are contained in a rectangle.

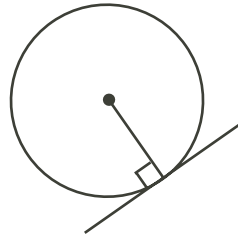
The two smaller circles have equal radii. Each of the three circles is tangent to the other two circles, and each is also tangent to the sides of the rectangle. The width of the rectangle is 4 m.

Determine the area of the rectangle not covered by the head and ears of the famous mouse.



For this problem, the following known results about circles may be useful:

- If a line is tangent to a circle, it is perpendicular to the radius drawn to the point of tangency.



- If two circles are tangent to each other at point  $P$ , a line segment through the point of tangency can be drawn connecting the two centres,  $C_1$  and  $C_2$ .

